Lab 03 Template – Ethan Roepke

1. **List the five most common trigrams**

(10 total points. 2 points each)

   5 most common trigrams: CVL, GQS, LXI, GQW, AUN

2. **Show the difference between the starting indexes of the five most common trigrams.**

(10 total points, 2 points each)

   CVL: [844, 136, 264, 268, 12]
   GQS: [464, 352, 36, 224, 24]
   LXI: [88, 96, 300, 264, 488]
   GQW: [8, 28, 56, 188, 212]
   AUN: [8, 876, 184, 512, 44]

3. **Based on your findings, what do you suspect the key length is? Justify your answer.**

(10 total points, 5 points length value, 5 points justification)

   The key length should be 4 after looking through the differences.
   When I was looking through the differences, I saw that all the differences numbers were all divisible by 2 or 4. I did not consider 2 because it was too short to be a key and 4 seemed like a reasonable key size.

4.   Separate the ciphertext into X shift-by-N ciphers where X is the length of the key and perform monoalphabetic frequency analysis on each. What are the three most common ciphertext characters in each of the shift-by-N ciphers?
(20 total points, 10 points for separating into X shift-by-N ciphers, 10 points for the common ciphertext characters in each shift-by-N cipher.)

---Cipher 0 ---

JFLLXIPASIYRMOYRHCBFQCAQXSENLHSLFVHGRGHLNLHPCZFQXBAZXJLHWZLFBWZNH
RVACAHXNOZBDBKHWZLFBWZNHRVLXIBAMSYFCOUQMCFBDIUQNFZGJBKLNGKBWHO
HAHTRRAORASABQSSCHCBENSZRBSYTNOUGCSJULCTNBGPTWSKGXDYBCSJGHCBLXIC
RKSLACOYTNHARMTVECSYZRBHGRCUVMCUGTBVJRHSBXYZYRYLVCAPTQHZCASHQCCA
URGMHABPGDFLJJFLUXIZRJQYBBGAUNOSYNMAUNDHVWHVACVLJJZSFBHHECWUTCCIY
RGARAIWONHARAULGJBVGQSYGAIJXACBAMHVGQWZFRRLGQWZVBOTVBHHXNWONES
UGMCURJBFGQWUTWCIHCMVHFWSYRHZINFFVVDVECOUGCVHGHCBYRJLVLOUGKSSV
NJLGQWZVBVHCYSUVWUOBFQVHURAUJBTNWULGDDHSCSYLXIUBCOTNWOARAAPAJHV
ELMIRARFAJAPPBAVQNZZHBDLPCJLURQSRBWNUCSKBWAVGXFHGYWJBBCBGQPVHWR
BARHZGFCGRACZVGOUQOWCRBSCRWOAGNAWGRBARAQLCCIUVCCUROCBECVYRNQ
VZNWUGQWZVBCUROCBECVYRNKLFCPVHWRVAXZFZYWJN

(Most frequent ciphertext characters)
C = 52
B = 47
A = 43

---Cipher 1 ---

YDYBJQOVWUVINFSNWRHVAIUVCHDBFSYRXBOVVKLFCPVHWRZNWHHZXBPPJOASXIYM
NFVSRJLNVOJURBLLXITRJBSVTSHEXPVGWCANACIBCQFOXFNPHPLEWSAVLCYTJBPFVPB
GQSDNBPSRNRPAPXBFCOZRLCUQTSLCHCBEQSHQMCDAUCZGQWTTXCKPXJLEJZYVPVA
YRGARWHORCSYZRBHGXFZNWWUSRZAEJHPBWIUVCDHECAHAYOYGVOJURBLHWRLEW
SHGQWAFJVFCNFHYUCFPXAINCQONBGPFVWYPXDYBLSZFXFJBWHYBUZLQOISYHOYZXF
LQESYLCCBTQPBGXIAFRRLVCGSVEWUTQITNWHPFBILSUSZUBYPAQOPEKZVBMUYBFBM
BAHORLMIBAUZYXCRENSZRRYUBFMVHFOUGCCORUDIHCDHLJHARWHPBWHORBSYVN
GONMFBOKSYFTWUJNGWBCHLQCVLZNOZLKIAGQSZRJFLANKAUNMSBXYOHVOUFFSHG
KOKOASHGQSCRAMAURBNINFFUJFKGXGWBCWONMHVJJWAGRZORVCCRMCULXIIROCY
RRQVHURGRACOVVVLLRAUBCGAHYWKLTBVJCVLLLOUGKIPYMOULCVPAPZPXNHONCML
GWCUBCMLGWCASXFHOXIASXFALHSHEBGVV

(Most frequent ciphertext characters)
C = 42
B = 40
H = 38

---**Cipher 2** ---

CGMEXAAUNTBGDFLVBHONCFPTQHVANDVFBWIYNTBGDFLSXIYLXIYCXWUGXTCVNKPQX
BAXWCDGQSARLVZGDTMNWRFBDFLSACTGQSMHCIYRCCVERUOGAWNUCQFOXFNFMC
UGOSLYYOPARRVQXBAQXHONCONNRBQHBHSRCALTXZPFCSUHWRLEBHHAMHONCHL
EVWUNCCYVBCBGCVLENWAPJBAONFLNBCURMKPGQWAPJBAONPHEPOPANRDVCVPG
MCLFWHMRNZWVCMVSASTBAGLBATLNAOUQRHHOBCSHCSSLFWSYWCAFCCWRESYH
WHPYHCBNASKRJRJNWMVHBHVCRHTNHPLJRHOGQSZRFSHCXBZVMCUGTBVJBIZCNQAI
NVPPUSSBLOARMOACJFRVWUSBCQLQJFHAMUSRWVHINBYRNGLJQMTRFVFQXSZVCKHA
CALGQSYRBGVZDQOGNZSZNXBFCGANAHHGCVLONUPAWWUTCVLENKHFJKHEJTLJHSH
EBTYBVBVJWIJYNOYJJFAUNKOBUSAURBNNUZAURGLINFFGQWUTRGNBWSQHBHNBWSA
UNFLJNFLFDFCVECYFQSYRCVLENBVOXRFXWSDJQCZGJFARMWAVCKHFCVLZJQOVWSZV
MCUGDBKRAGANWRKROSUFNBLGFCYXLCTCDHLEWSDCXKLE

(Most frequent ciphertext characters)
C = 51
N = 44
A = 39

---**Cipher 3** ---

OISUXCRRMWUGXSCRAMAURBNGAIZGNRABAIUVCOSYCVLLBOFVCUVGBAHECOURFCY
QNFVSRBARUZPTNBJRCVLARHZNFOSYYSVCUSHFJHOENOAAXHQHBHAUNCURBCUGQS
VGQSYFRRLQNQPQNRVHCTHGNWUNVWJEXGLPXBKRGHLEVWUNCWVAMWKACGLRCV
LJJFPJJGIBABHSCSYVWHORAIPABUYRFIWGQSYRBHHEEWUTQWKVWUMEXAAUNVRFCVL
JQOAUDBARAYPYUSYFYOAEXZTNLVPANGIHRZKVWOBGXAHGNRMNLHVERSZZXGABOIZJ
NFLEXIUQNRBCYIAVWQHZYGMBACYQNFSLMWZCXGHYKIYANRPAKMSNBSYFLOUFXALB
OIZJNFLXNDANUWCRCCDBAYSBJRPAPPVQRSZGQSKVBDVFJZBARHZEJBUVPVANWRKNH
KLJNFLGQOAPUCZRCCNBRBNBDHMBASCRAPBGCVLENKHFXBLZJBDUXHHHPVAHBHVS
RUOGCCZGXFTGQSDVASVSCVLPJAWFCCZZJGOGQCZRVSANUAVGQSYSDQRRAGPACCQ
HWYORCIYANRPGJFVHWRORKFVHPVAHBPHPTTYBVHORKFPATDHHBSOVBBHZNWZPXB
UBAXVUWQVAWCYLXIYFXBZNAOOLXIYHWPVEWGVA

(Most frequent ciphertext characters)
A = 52
R = 43
V = 43

5. **Decrypt the ciphertext using the potential key values you found in question 5 Show all iterations, the final keyword, and the final plaintext.**
 (25 total points, 15 points for all iterations, 5 points for correct keyword, 5 points for correct plaintext)

Trial 17 is the correct key and plaintext

---**TRIAL 1** ---
key: "ccce"

HDJHVGNWQGWNKMWNFAZBOAYMVQCJJFQHDTFCPEFHLJFLAXDMVZYVVHJDUXJBZUXJFPTWAY
FTLMXXBZIDUXJBZUXJFPTHVGZWKQWBAMSMKADXBGSMLDXCHZIHLEIXUFMDYFRNPYMNYQYXO
QQYFAZALQXNZQWPLMSCAQHQJARJZENPUQICVBWXAQHCFAZHVGANIQJWAMWPLFYNKRTAAQ
WVPZFCPASRKASCRZTFPFQXVWXUPWJRAYNPOFXYYQFMAAYQPEKDYZNCBDJFHDJQVGXNHOWX
ZEYQLMQULKYQLBFRUFTWATJFHXQBZFFAAUSPAAGUPEYNYGUKLFYNYSJCHZTCOQWCYGHTYAZ
WKFTCOUXBPPJCOUXRZMRRZFFTLUMJCQSCKASNHZDCOUSPUAGDAKTDDUQUPFXELDDRTBTAA
MSCATFCFAZUPHJRJMSCIQQRLHJCOUXRZTFYWQSRUSMXDOTDSPYQHZRJUSJCBBFOAQWHVGS
XAMRJUMYNYYNWHFTAJKGNYPDWHYNLZYTMLXXDZBJLAHJQPOQNZULQAQIXUYTCVDFCWUHXZ
AZCONTDUPZWPFXCDAENYAXREMSMMUANZQANUMYCLYUCPZYNYOJYAGSRAASNMAZAATWNL
OTVLUSCOUXRZASNMAZAATWNLIJBANTDUPTWVXDVWUHJWBWXHOMRUSTELDQJUPFRYGSRAF
BXDQWNVZMRTIJBANTDUPXJUFFVVZNLHMYOVGWILDTOPHJJTMHQPZJHVGRNHZQRRQFAVNTCU
AYJYAGXAODKVDLLFNJAUQYRJAWPHZNBTNZCOQBJZNQNLPNWNVZBAMXNJASMRQJYFAZAOQFM
KABWSAXCOURPVAILVHJAHXWRNTYUPEYNUFMNAQWVPZFCVDXJUUSOPXYAHFNXUGSRABFAAY
FWWMWCTMHQPZJDUPJAUQFCOUYBHTDYLDFUSADLVYGJAOMJZENBTUWLVBWXJQXBVDHXUF
WXSXJMMGQUFMWVVDJMCQWHAAZPONZCVGYBPPJRAEQRCUSPOGRJUFNBZGJOSQXQZWNWO
MNAIXTXKSWXDZKXYFMNJKGXYSXUVAPALQXNPWSXDKTDDMSCAAMNSBGDABFHHFYNUFNXUF
MNZQWRLEMJKDZKIQWBRUSFLEUXAFJMATJVLMXHIGYCOQXNHDJWLIYQLKQXVWMDTMSBDQFC
IMIKYQFCOQANYKYQPZLELDDQHDICVEUXAUMJKFTFHUYCPXMNTAANKASHVGGNMAWNPOTDSP
ENYAMRTTJHPYSXAEYDWUIHRZTFATJHJMSCIGNUKMSHATNWNXNTLFMJAKJCUASXAKJCUAYOVDF
KVGYOVDYHFQFAZETRAEKAVYYQLRZCBDJRZFMJADNPOFTWLBTBZUGULRZCBDJOVGWHVGWYV
USCVRARLINMVZYTUABCOQYNJTXCBRKJUPDXBDJOYARCOQKDAGWNAATAPSMCYULQAODKVDL
BKASCMQJUWMNWPPTMVZYMVFMJAMLJPZODZFQNAYJPVXNBAQSDUPJAZFFWKFMJAFJATUSJAA
WRZAZCATJALUYLHZYKLDJJZASNKINCOUYLHZYKLNFANMNWLPBRATNCKAJBUFKNLXURAKTOYQ
RXYEJXYRJJYMSMPFFKZAQDAQQHDUQUUAYBAAUNCQWDUFNUFAZJYQINHPHJUKTDZFTYPFRJFN
JFPFMCOQXNDQFYVZXRKASCRZTFZGXYLOYELTNLSQQXJMYNKMYYHDPRUSQXAOJMHDFWKSQN
UTFELZWNLEJFOKRNDTDMVQXRAIFWAYJCOQWNZETVBOMCLXQVLVZBAEYJYFFCATJKLSNWUUSP
ATJALIFBHIFAHRJFFQFAZRWXTZTFUGHULMWFHDYQLIMXSQYQPZLJSXYQPEJELDDCOUSPPELXU
QODZFLXUQYQLDJFLDJBBDARCAWBOQWNATJALZTKVPDTUQBFOAXCHDYNKUYRAIFBATJVHOMR
UQXRKASCBZINYEYJUPINMQSBLZJCDAWTJARYBFJAUQBYVIJAMGQQVAPNKUSCVQANYKYQPZLCY
GXCLPYXYGSRAMQUATJHZMDRASTCZYFAAMSNDAWMLDTOPZYNSXNPLZHNATJWPFXJDMQUWQT
YSQFBHFMALMYWVFODZFYQLASNZASCOQTCOQWBPPJMLONMLPTDARFCLUSJTUHAVEJLVZINEF
JATUSJAUTWKUIWAEJNATJFHDNFHEGXYZFOAQWRUFMNYGNWZSWNDGUCOQWNZFFACUSPOUI
RUSKAVYYQLTPBATJFOMYQBZYNYWNUSQWBWMYAVXRJJTNWLEGDPXIRUMZCVYFCLPKJJFTAPQX
VVEYXMGXFLDJAVGSMLPZYWGYRUOFVWEKXYAWMLDQHKUXYVEFUIGWWLPNWIKQJZQWBJMSB
VYJXMGXFLDJTLBYJSUANAABXYWQXHPNWNNTMPQXCOQIRZBTBHXZWPFXAHZSRNTYJUPIJFIJFLD
JCOMYLSAXNAALXPZLXBFKXYQANYNZCATJALIFBVZJVHZBQVFFDNTYDZFTOPSMCAAXCVDRCOQB
RYQTOATJLHYUBAAXVHEMCOAXNTQYJSYTCOQWOBOPNYENWAAODUWMNAGWWLPNCHDTDUP

MNIDTDNTYDZNFLRRWXTFMNIDNWRBFDZQMRZZFVLUXLVZSXYVTQUOTWUAWHVGWBVZXJYMM
HVGWDUNTAUETW

---TRIAL 2 ---
key: "ddjn"

GCCYUFGNPFPEJLPEEZSSNZRDUPVAIEJYCSYTODYYKIYCZWWDUYRMUGCUTWCSYTQAEOMNZX
YKKLQOAYBUTWCSYTQAEOMYUFSNJPPSZLLDJZWOAFLDKCQTGYBYKDBOTEFUXEKEOXFEXPRON
PJPEZSRKPQEYPPGKLLTZPAHIZKAYDGGTPBTUAPOZPATEZSYUFTEHPCNZLPGKEREJQMRZPPMOYY
TOZLIJZLTQYMWOEJOUVQLOVCIZXGGNEQPXPYDZZRHODDUXYGTACCWGCCHUFQEGNPOYDRH
KLJLKJRHKAYITEMNZSCWGWJSYEYRZTLGZZZLODREXFNBKEREXRCTGYMTNPPTXFAKXZSNJEMTNT
QSOOCTNTQIYLKIYEYKKTFABPLTJZLEGYWTNTLGTZZUZJMUCTJLOEQVKCWISAMRZLLTZSYTEZSLO
GCIILLTHPJIKGCTNTQIYSYPVPLITRFOCNMURORHGYKATRCTAAYFZPPYUFLOZLKATLREXXGNGEMR
IJZEXOWNGXGCYXMDKWQUYACCZGCHONJEYTEHZPBOTXMTUCYTVTAOYZSTNMMUTOSNOEQTC
ZXEXZQIDLLDLTTEYPTETLRTKXNTOYREXNCPZFLIZZLELZSRZSPEKNMMKTLTNTQIYZLELZSRZSPEKH
CSZMMUTOMNUWWMVTAAVAPOGNFITRMVKCJATOYIXFLIZEUOCPPEUYFISHCSZMMUTOQATEYM
UYGCGLRFUFPZKCMFOGCASLAHOYCYUFKEGYJIQPYRUMMTTZRAXZZOZNWBUCECEMCRTPRIIZP
GGYGSSMSTNPUAYMJEKOGNMUSSZLQEIZLDQPCPEZSRNPYDJZUNRZQTNTKGUZBCUGCRGWPIM
SRLODRETEFEZPPMOYYTUCQATTLFOWRRGEGOTFLIZAYRZXYNVLPTSLAHOYCUTOCRTPYTNTRSG
SWPKCYLRZWCUXZAZNFAYDGSSTPCUAPOIPQSUCAOTEPORWCDLFJLELPMUCCDBPPYZZSGNMS
TUFRSOOCIZDJIBTLGNFKATEGSYFCFRPQHYVGNNLGRHWMOJRPOCYDOXEFEIJZOXRQLUZIRKPQ
EOVLOCJMUCLLTZZFERAZUZAYYGERETEGOTEFEYPPIKDFAJCSBHPPSQTLWKDNOZECDZSCMKLQ
YHFRTNPQEGCCNKHRHKJJOUVFUSLLSCPYTHLBBXPYTNPTEXJRHOYEVKCWHGCBTUDNOZTFAJE
MWGTRTOWFESZTEJZLYUFZELZPEONMUROXEXZFISSCYOXLOZDRUVTBYQYMWZSCYILLTHFGLJLL
YZSGNMWGKKEFAZJCTTZLOZJCTTZRFUCYBUFRFUCRYEPYRYDMIZDDRUXRHKQSTACCIYEFAZCG
GNEMNKAMSYTZLKQSTACCFUFPYUFPPUTLTUQTIKHGDUYRKTZUTNPREISQTAQDATOWOACCFXZ
KTNPDUZFPEZZMRORFTXTEHZNWBUCESJZLTLPCLVLGNOOMDUYRDUEFAZLEAOYHUYEJEZXCGU
WGSZPLUTOCRYEYNJEFAZECRSTLAZZPIYZSTZSCRKTRCGYRBKCCAYZLEJHGTNTRCGYRBKMYRML
GNKOUIZSGTJZCSTEDEKWNIZJMFXPKOXDCOXQCAXLLDOEYBYZJUZPJYCTJLTZRSZZNEBPPUTEGLE
ZSAXPBEGOAATJMUYEMPOEKAEMCWOEFTNPQECPYPUYQIJZLTQYMWYFQPKNRVKSGCRPJOILREJ
LRPGCIITRJOZNCDGCYNJRJETSYVKYPEKDCWNJKECSWDUPQIZHYNZXCTNPPEYDMMANFTKWJMK
USSZDRAXEYTZSCBKRGNTTLGZSCRKHYSGHYRGQCWEPYRYQPOSYMWTFALKLPWGCRHKHFORP
RHOYEARWRHODCVKCWTNTLGODEOTPHUYEEOTPRHKCCWKCCSACTIBZPSNPPEZSCRKYMBUO
WKTPUWNZQTGCREJTRIZHYSZSCMGNFITPQIJZLTAYBEXDRATOBELPLSKYCTCZPKIZKPAECRTPUPU
HCRLFJHUZIEJTLTUPTEXJRHOYETXFQTKOROXFLIZLJLZSCYYLWIZRMTYXYRZLLECZPDKCMFOYRER
WGGKYAEZSCNOEQACLJLVPMPRPYSGEFRKLRNUEHUYERHKZLEYZLTNPMTNPPSOOCDKNGDKO
MUZQYTKTLASTARUDCCUYBEDECRSTLAZTMNJTBNZDCEZSCWGCGWGDZOXYYFZPPITEFEXFGNY
RPECFNTNPPEYEYRBTLGNTBITRDRUXRHKSISZSCWNLRHAYREXVGLRPPSVLRRUWKAISGNKDZUO
WBITLSTUXYTKODAIEMROPQMUDROLFQWKCCRUFLDKOSPVFRITNYMVDDOXZPDKCJYJTQPUDYL
HFPNKOGNHJJAYPPSILLSUXCOLFQWKCCKKARARTTEZZUOXVJOGOGNMMMDOPQTNPBIYAMSGW
SNOEQRGYLIMSRATOBAEHCWKCCTNLRCRZQEZZEOOYEOAEDOXPTEXMSTZSCRKHYSUYCMGYU
HUEYUMSRUYEMFORFTZZQTUCKTNPUIXPMFZSCCGXNSZZQMGDFTNZQESPRARXMTNPPFANIEX
DGNZZHUTVFEZFPNKOGTGCMUTOFEHCMUMSRUYMYCQQPOSEFEHCGNQAYUYPFIYYYMKTQCU
YLOXUMHTNMNTZPYUFPSUYQAXLFYUFPUTMMRTDMN

--TRIAL 3 ---
key: "edjn"

FCCYTFGNOFPEILPEDZSSMZRDTPVAHEJYBSYTNDYYJIYCYWWDTYRMTGCUSWCSXTQADOMNYXY
KJLQOZYBUSWCSXTQADOMYTFSNIPPSYLLDIZWOZFLDJCQTFYBYJDBOSEFUWEKENXFEWPROMPJ
PDZSRJPQEXPPGJLLTYPAHHZKAXDGGSPBTTAPOYPATDZSYTFTEGPCNYLPGJEREIQMRYPPMNYYTN
ZLIIZLTPYMWNEJOTVQLNVCIYXGGMEQPWPYDYZRHNDDUWYGTZCCWFCCHTFQEFNPOXDRHJLJL
JJRHJAYISEMNYSCWFWJSXEYRYTLGYZZLNDREWFNBJEREWRCTFYMTMPPTWFAKWZSNIEMTMTQS
NOCTMTQIXLKIXEYKJTFAAPLTIZLEFYWTMTLGSZZUYJMUBTJLNEQVJCWIRAMRYLLTYSYTDZSLNGCI
HLLTGPJIJGCTMTQIXSYPUPLISRFOBNMUQORHFYKASRCTZAYFYPPYTFLOYLKASLREWXGNFEMRHJ
ZEWOWNFXGCXXMDJWQUXACCYGCHNNJEXTEHYPBOSXMTTCYTUTAOXZSTMMMUSOSNNEQTBZ
XEWZQICLLDKTTEXPTESLRTJXNTNYREWNCPYFLIYZLEKZSRYSPEJNMMJTLTMTQIXZLEKZSRYSPEJH
CSYMMUSOMNTWWMUTAAUAPOFNFISRMVJCJASOYIWFLIYEUOBPPETYFIRHCSYMMUSOQASEYM
TYGCFLRFTFPZJCMFNGCARLAHNYCYTFKEFYJIPPYRTMMTSZRAWZZOYNWBTCECDMCRSPRIHZPG
FYGSRMSTMPUAXMJEJOGNLUSSYLQEHZLDPPCPDZSRMPYDIZUNQZQTMTKGTZBCTGCRFWPILSR
LNDRESEFEYPPMNYYTTCQASTLFNWRRFEGOSFLIYAYRYXYNULPTRLAHNYCUSOCRSPYTMTRSFSW
PJCYLQZWCTXZAYNFAXDGSRTPCTAPOHPQSTCAOSEPOQWCDKFJLDLPMTCCDAPPYYZSGMMSTTF
RSNOCIYDJIATLGMFKASEGSXFCFQPQHXVGNMLGRGWMOIRPOBYDOWEFEHJZOWRQLTZIRJPQE
NVLOBJMUBLLTYZFEQAZUYAYYFERESEGOSEFEXPPIJDFAICSBGPPSPTLWJDNOYECDYSCMJLQYGF
RTMPQEFCCNJHRHJJJOTVFURLLSBPYTGLBBWPYTMPTEWJRHNYEVJCWHFCBTTDNOYTFAIEMWFT
RTNWFERZTEIZLYTFZEKZPENNMUQOXEWZFIRSCYNXLOYDRUUTBYPYMWYSCYHLLTGFGLILLYYSG
NLWGKJEFAYJCTSZLOYJCTSZRFTCYBTFRFTCRYDPYRXDMIYDDRTXRHJQSTZCCIXEFAYCGGMEMNJA
MSXTZLJQSTZCCFTFPYTFPPTTLTTQTIJHGDTYRKSZUTMPREHSQTZQDASOWOZCCFWZKTMPDUYFP
EYZMRNRFTWTEHYNWBTCESIZLTKPCLULGNNOMDTYRDTEFAYLEANYHUXEJEYXCGTWGSYPLUSO
CRXEYNIEFAYECRRTLAYZPIXZSTYSCRJTRCFYRBJCCAXZLEIHGTMTRCFYRBJMYRLLGNJOUIYSGTIZC
SSEDEJWNIYJMFWPKOWDCOWQCAWLLDNEYBXZJUYPJYBTJLSZRSYZNEAPPUSEGLDZSAWPBEFO
AASJMUXEMPNEKADMCWNEFTMPQEBPYPTYQIIZLTPYMWXFQPJNRVJSGCQPJOHLREILRPFCIISRJO
YNCDFCYNIRJESSYVJYPEJDCWMJKEBSWDTPQIYHYNYXCTMPPEXDMMZNFTJWJMJUSSYDRAWEYT
YSCBJRGNSTLGYSCRJHYSFHYRFQCWDPYRXQPORYMWSFALJLPWFCRHJHFOQPRHNYEAQWRHN
DCVJCWTMTLGNDEOSPHUXEEOSPRHJCCWJCCSZCTIAZPSMPPEYSCRJYMBTOWKSPUWMZQTFC
REITRIYHYSYSCMFNFISPQIIZLTZYBEWDRASOBEKPLSJYCTBZPKHZKPZECRSPUPTHCRKFJHTZIEITLT
TPTEWJRHNYETWFQTJOROWFLIYLJLYSCYXLWIYRMTXXYRYLLEBZPDJCMFNYREQWGGJYAEYSCNN
EQABLJLUPMPQPYSFEFRJLRNTEHUXERHJZLEXZLTMPMTMPPSNOCDJNGDJOMUYQYTJTLARTARTD
CCTYBECECRRTLAYTMNITBNYDCEYSCWFCGWFDZOWYYFYPPISEFEWFGNXRPEBFNTMPPEXEYR
ATLGMTBISRDRTXRHJSISYSCWMLRHZYREWVGLQPPSULRRTWKAHSGNJDZUNWBISLSTTXYTJODA
HEMRNPQMTDROKFQWJCCRTFLDJOSPUFRISNYMUDDOWZPDJCJYITQPTDYLGFPNJOGNGJJAXPP
SHLLSTXCOKFQWJCCKJARAQTTEYZUOWVJOFOGNLMMDNPQTMPBIXAMSFWSNNEQRFYLILSRAS
OBADHCWJCCTMLRCQZQEYZEONYEOZEDOWPTEWMSTYSCRJHYSTYCMFYUHTEYULSRUXEMFNR
FTYZQTTCKTMPUIWPMFYSCCFXNSYZQMFDFTMZQERPRAQXMTMPPFZNIEWDGNYZHUSVFEYFPNJ
OGTFCMUSOFEGCMULSRUXMYCPQPOREFEGCGNPAYUXPFIXYYMJTQCTYLOWUMHSNMNSZPYTF
PSTYQAWLFYTFPUSMMRSDMN

---TRIAL 4 ---
key: "eden"

FCHYTFLNOFUEILUEDZXSMZWDTPAAHEOYBSDTNDDYJIDCYWBDTYWMTGHUSWHSXTVADORNYX
DKJLVOZYGUSWHSXTVADORYTFXNIPUSYLQDIZBOZFQDJCVTFYGYJDGOSEKUWEPENXKEWPWOM
POPDZXRJPVEXPUGJLQTYPFHHZPAXDLGSPGTTAUOYPFTDZXYTFYEGPHNYLUGJEWEIQRRYPUMNY
DTNZQIIZQTPYRWNEOOTVVLNVHIYXLGMEVPWPDDYZWHNDIUWYLTZCHWFCHHTFVEFNUOXDW
HJLOLJJWHJADISERNYSHWFWOSXEDRYTQGYZELNDWEWFSBJEWEWRHTFYRTMPUTWFFKWZXNI
ERTMTVSNOHTMTVIXLPIXEDKJTKAAPQTIZQEFYBTMTQGSZEUYJRUBTOLNEVVJCBIRARRYLQTYSDT
DZXLNGHIHLQTGPOIJGHTMTVIXSDPUPQISRKOBNRUQOWHFYPASRHTZADFYPUYTFQOYLPASLWE
WXLNFERRHJEEWOBNFXLCXXRDJWVUXAHCYGHHNNOEXTJHYPGOSXRTTCDTUTFOXZXTMMRUS
OXNNEVTBZCEWZVICLQDKTYEXPYESLWTJXSTNYWEWNHPYFQIYZQEKZXRYSUEJNRMJTQTMTVIXZ
QEKZXRYSUEJHHSYMRUSORNTWBMUTFAUAUOFNKISRRVJCOASODIWFQIYEZOBPUETYKIRHHSY
MRUSOVASEDMTYLCFLWFTFUZJCRFNGHARLFHNYHYTFPEFYOIPPDRTMRTSZWAWZEOYNBBTCJC
DMHRSPWIHZUGFYLSRMXTMPZAXMOEJOLNLUXSYLVEHZQDPPHPDZXRMPDDIZZNQZVTMTPGTZ
GCTGHRFWUILSWLNDWESEKEYPUMNYDTTCVASTQFNWWRFELOSFQIYADRYXDNULUTRLFHNYH
USOHRSPDTMTWSFSBPJCDLQZBCTXEAYNKAXDLSRTUCTAUOHPVSTCFOSEUOQWHDKFOLDLUM
TCHDAPUYYZXGMMXTTFWSNOHIYDOIATQGMFPASELSXFHFQPVHXVLNMLLRGWROIRUOBYIOWE
KEHJEOWRVLTZNRJPVENVQOBJRUBLQTYZKEQAEUYADYFEWESELOSEKEXPUIJDKAICXBGPUSPTQ
WJDSOYEHDYSHMJLVYGFWTMPVEFCHNJHWHJJOOTVKURLQSBPDTGLGBWPDTMPYEWJWHNYJVJ
CBHFCGTTDSOYTKAIERWFTWTNWKERZYEIZQYTFEEKZUENNRUQOCEWZKIRSHYNXQOYDWUUTG
YPYRWYSHYHLQTGFLLILQYYSLNLWLKJEKAYJHTSZQOYJHTSZWFTCDBTFWFTCWYDPDRXDRIYDIRT
XWHJQXTZCHIXEKAYCLGMERNJARSXTELJQXTZCHFTFUYTFUPTTQTTQYIJHLDTYWKSZZTMPWEHSV
TZQIASOBOZCHFWZPTMPIUYFUEYZRRNRKTWTJHYNBBTCJSIZQTKPHLULLNNORDTYWDTEKAYLJA
NYMUXEOEYXHGTWLSYPQUSOHRXEDNIEKAYEHRRTQAYZUIXZXTYSHRJTWCFYWBJCHAXZQEIHLT
MTWCFYWBJMDRLLLNJOZIYSLTIZHSSEIEJWSIYJRFWPPOWDHOWQHAWLQDNEDBXZOUYPOYBTO
LSZWSYZSEAPUUSELLDZXAWPGEFOFASJRUXERPNEPADMHWNEKTMPVEBPDPTYVIIZQTPYRWXFV
PJNWVJSLCQPOOHLWEILWPFCNISROOYNHDFCDNIROESSDVJYUEJDHWMJPEBSBDTPVIYHDNYX
HTMPUEXDRMZNKTJWOMJUXSYDWAWEDTYSHBJRLNSTQGYSHRJHDSFHDRFQHWDPDRXQUORY
RWSFFLJLUWFCWHJHKOQPWHNYJAQWWHNDHVJCBTMTQGNDJOSPMUXEJOSPWHJCHWJCHSZ
CYIAZUSMPUEYSHRJYRBTOBKSPZWMZVTFCWEITWIYHDSYSHMFNKISPVIIZQTZYGEWDWASOGEK
PQSJYHTBZUKHZPPZEHRSPZPTHHRKFOHTZNEITQTTPYEWJWHNYJTWFVTJOWOWFQIYLOLYSHYXL
BIYRRTXXDRYLQEBZUDJCRFNYWEQWLGJYFEYSHNNEVABLOLUPRPQPDSFEKRJLWNTEMUXEWHJ
ZQEXZQTMPRTMPUSNOHDJNLDJORUYQDTJTQARTFRTDHCTYGECEHRRTQAYTRNITGNYDHEYSHW
FCLWFDEOWYDFYPUISEKEWFLNXRUEBFSTMPUEXEDRATQGMTGISRIRTXWHJSNSYSHWMLWHZY
WEWVLLQPUSULWRTWPAHSLNJDEUNWGISLXTTXDTJOIAHERRNPVMTDWOKFVWJCHRTFQDJOXP
UFWISNDMUDIOWZUDJCOYITVPTDDLGFUNJOLNGJOAXPUSHLQSTXHOKFVWJCHKJAWAQTYEYZZ
OWVOOFOLNLMRDNPVTMPGIXARSFWXNNEVRFYQILSWASOGADHHWJCHTMLWCQZVEYZJONYJ
OZEIOWPYEWMXTYSHRJHDSTYHMFYZHTEDULSWUXERFNRKTYZVTTCPTMPZIWPRFYSHCFXSSYZV
MFDKTMZVERPWAQXRTMPUFZNNEWDLNYZMUSVKEYFUNJOLTFCRUSOKEGCRULSWUXMDCPQU
OREKEGCLNPADUXPKIXYDMJTVCTYQOWURHSNRNSZUYTFUSTYVAWLKYTFUUSMRRSDRN

---TRIAL 5 ---

key: "rdrn"

SCUYGFYNBFHEVLHEQZKSZZJDGPNAUEBYOSQTADQYWIQCLWODGYJMGGUUFWUSKTIAQOENL
XQKWLIOMYTUFWUSKTIAQOEYGFKNVPHSLLDDVZOOMFDDWCITSYTYWDTOFEXUJECEAXXEJPJOZ
PBPQZKRWPIEKPHGWLDTLPSHUZCAKDYGFPTTGAHOLPSTQZKYGFLETPUNLLHGWEJEVQERLPHM
AYQTAZDIVZDTCYEWAEBOGVILAVUILXYGZEIPJPQDLZJHADVUJYYTMCUWSCUHGFIESNHOKDJHW
LBLWJJHWAQIFEENLSUWSWBSKEQRLTDGLZRLADJEJFFBWEJEJRUTSYETZPHTJFSKJZKNVEETZTISA
OUTZTIIKLCIKEQKWTXANPDTVZDESYOTZTDGFZRULJEUOTBLAEIVWCOIEAERLLDTLSQTQZKLAGUI
ULDTTPBIWGUTZTIIKSQPHPDIFRXOONEUDOJHSYCAFRUTMAQFLPHYGFDOLLCAFLJEJXYNSEERUJ
REJOONSXYCKXEDWWIUKAUCLGUHANBEKTWHLPTOFXETGCQTHTSOKZKTZMEUFOKNAEITOZPEJ
ZIIPLDDXTLEKPLEFLJTWXFTAYJEJNUPLFDILZDEXZKRLSHEWNEMWTDTZTIIKZDEXZKRLSHEWHUSL
MEUFOENGWOMHTSAHAHOSNXIFREVWCBAFOQIJFDILEMOOPHEGYXIEHUSLMEUFOIAFEQMGY
YCSLJFGFHZWCEFAGUAELSHAYUYGFCESYBICPQRGMETFZJAJZROLNOBGCWCQMURFPJIUZHGS
YYSEMKTZPMAKMBEWOYNYUKSLLIEUZDDCPUPQZKRZPQDVZMNDZITZTCGGZTCGGURSWHIYSJL
ADJEFEXELPHMAYQTGCIAFTDFAWJRSEYOFFDILAQRLXQNHLHTELSHAYUUFOURFPQTZTJSSSOPW
CQLDZOCGXRALNXAKDYSETHCGAHOUPISGCSOFEHODWUDXFBLQLHMGCUDNPHYLZKGZMKTG
FJSAOUILDBINTDGZFCAFEYSKFUFDPIHKVYNZLYRTWEOVRHOOYVOJEXEUJROJRILGZARWPIEAVD
OOJEUOLDTLZXEDARULAQYSEJEFEYOFEXEKPHIWDXAVCKBTPHSCTDWWDFOLEUDLSUMWLIYTFJ
TZPIESCUNWHJHWJBOGVXUELDSOPQTTLTBJPQTZPLEJJJHAYWVWCOHSCTTGDFOLTXAVEEWSTJT
AWXEEZLEVZDYGFREXZHEANEUDOPEJZXIESUYAXDOLDJUHTTYCYEWLSUYULDTTFYLVLDYLSYNY
WYKWEXALJUTFZDOLJUTFZJFGCQBGFJFGCJYQPQRKDEILDVRGXJHWQKTMCUIKEXALCYGZEENW
AESKTRLWQKTMCUFGFHYGFHPGTDTGQLIWHYDGYJKFZMTZPJEUSITMQVAFOOOMCUFJZCTZPVUL
FHELZERARXTJTWHLNOBGCWSVZDTXPULHLYNAOEDGYJDGEXALLWAAYZUKEBELXUGGWYSLPD
UFOURKEQNVEXALEURETDALZHIKZKTLSURWTJCSYJBWCUAKZDEVHYTZTJCSYJBWMQRYLYNWOM
ILSYTVZUSFEVEWWFILJEFJPCOJDUOJQUAJLDDAEQBKZBULPBYOTBLFZJSLZFENPHUFEYLQZKAJPT
ESOSAFJEUKEEPAECAQMUWAEXTZPIEOPQPGYIIVZDTCYEWKFIPWNJVWSYCDPBOULJEVLJPSCAIF
RBOLNUDSCQNVRBEFSQVWYHEWDUWZJCEOSODGPIILHQNLXUTZPHEKDEMMNXTWWBMWUK
SLDJAJEQTLSUBWRYNFTDGLSURWHQSSHQRSQUWQPQRKQHOEYEWFFSLWLHWSCJHWHXODPJ
HAYWADWJHADUVWCOTZTDGADWOFPZUKEWOFPJHWCUWWCUSMCLINZHSZPHELSURWYEBG
OOKFPMWZZITSCJEVTJILHQSLSUMSNXIFPIIVZDTMYTEJDJAFOTEXPDSWYUTOZHKUZCPMEURFPM
PGHURXFBHGZAEVTDTGPLEJJJHAYWTJFITWOJOJFDILLBLLSUYKLOILRETKXQRLLDEOZHDWCEFAYJ
EDWYGWYSELSUNAEIAOLBLHPEPDPQSSEXRWLJNGEZUKEJHWZDEKZDTZPETZPHSAOUDWNYD
WOEULQQTWTDAETSRGDUCGYTEPEURETDALTENVTTNLDUELSUWSCYWSDROJYQFLPHIFEXEJFY
NKRHEOFFTZPHEKEQRNTDGZTTIFRVRGXJHWSASLSUWZLJHMYJEJVYLDPHSHLJRGWCAUSYNWD
RUAWTIFLKTGXQTWOVAUEERAPIMGDJOXFIWWCURGFDDWOKPHFJIFNQMHDVOJZHDWCBYVTIP
GDQLTFHNWOYNTJBAKPHSULDSGXUOXFIWWCUKWAJADTLELZMOJVBOSOYNYMEDAPITZPTIKAE
SSWKNAEIRSYDIYSJAFOTAQHUWWCUTZLJCDZIELZWOAYWOMEVOJPLEJMKTLSURWHQSGYUMSY
MHGEQUYSJUKEEFARXTLZITGCCTZPMIJPEFLSUCSXFSLZIMSDXTZZIEEPJADXETZPHFMNAEJDYNLZ
ZUFVXELFHNWOYTSCEUFOXETCEUYSJUKMQCCQHOEEXETCYNCAQUKPXIKYQMWTICGYDOJUEH
FNENFZHYGFHSGYIAJLXYGFHUFMERFDEN

---TRIAL 6 ---
key: "cren"

HOHYVRLNQRUEKXUEFLXSOLWDVBAAJQOYDEDTPPDYLUDCAIBDVKWMVSHUUIHSZFVAFARNAJ
DKLXVOBKGUUIHSZFVAFARYVRXNKBUSAXQDKLBOBRQDLOVTHKGYLPGOUQKUYQPEPJKEYBWO
OBOPFLXRLBVEZBUGLXQTABFHJLPAZPLGUBGTVMUOABFTFLXYVRYEIBHNAXUGLQWEKCRRABU
MPKDTPLQIKLQTRKRWPQOOVHVLPHHIAJLGOQVPYBDDALWHPPIUYKLTBOHWHOHHVRVEHZUO
ZPWHLXOLLVWHLMDIUQRNAEHWHIOSZQDRAFQGALELPPWEYRSBLQWEYDHTHKRTOBUTYRFKY
LXNKQRTOFVSPAHTOFVIZXPIZQDKLFKACBQTKLQEHKBTOFQGULEUAVRUDFOLPQVVLOBITMRRA
XQTAEDTFLXLPSHIJXQTIBOILSHTOFVIZEDPWBQIUDKODZRUSAWHHKPAUDHTBMDFABUYVRQOA
XPAUXWEYJLNHQRRJVEEYABNHJLCZJRDLIVUZMHCASHHPZOEZFJHABGOUJRTVODTWFFOZLXTOY
RUUAXNPQVTDLCEYLVIEXQDMFYEZBYEUXWTLJSTPKWEYZHPARQIALQEMLXRAEUELZRMLFQTOF
VIZLQEMLXRAEUELTHSAYRUUARNVIBMWFFAWMUOHZKIUDRVLOOAUADIYRQIAQZODBUEVKKITT
HSAYRUUAVAUQDMVKLCHXWFVRUZLORFPSHATXFHPKHYVRPEHKOIRBDRVYRTULWAYLEOAZBB
VOJCFYHRUBWIJLUGHKLSTYXTOBZAZYOELALNNGXSAXVEJLQDRBHPFLXROBDDKLZNSLVTOFPGV
LGCVSHRHIUINEWLPPWEUQKEABUMPKDTVOVAUFQFPIWRHQLOURQIAMDRAJDNWXUTTXFHPK
HUUAHRUBDTOFWSHEBPLODLSLBCVJEAAZKAZPLSTFUCVMUOJBVSVOFOUQUOSIHDMROLFXU
MVOHDCBUYALXGOYXTVRWSPAHIAPOICFQGORPAUQLSZRHFSBVHZHLNOXLRIIROKDUODKIOY
QKEJVEOYDVLVLNRLBVEPHQODVRUDXQTALKESMEUAMDYHQWEUQLOUQKEZBUILPKAKOXBIBU
SRFQWLPSOAQHDAEHMLXVYIRWTOBVEHOHNLTWHLVOOVHKUTXQSDBDTIXGBYBDTOBYEYVWH
PKJVLOBHHOGTVPSOAFKAKQRWHFWTPIKETLYEKLQYVREEMLUEPZRUSACEYLKITEHYPJQOAPWU
WFGYRKRWAEHYJXQTIRLLKXQYAELNNILKLQKAAVHTULQOAVHTULWFVODBVRWFVOWYFBDRZPR
IAPIRVJWHLCXTBOHIZQKAAOLGOQRNLMRSZFELLCXTBOHFVRUYVRUPVFQTVCYILTLDVKWKULZT
OBWEJEVTBCIAUABOBOHFYLPTOBIUARUEALRRPDKTYFJHAZBBVOJSKLQTMBHLWXLNPARDVKWD
VQKAAXJAPKMUZQOEAJHGVILSABQUUAHRZQDNKQKAAQHRTFQAALUIZLXTAEHRLFWCHKWBLO
HAZLQEKTLTOFWCHKWBLYDRNXLNLAZIAELTKLHSUQIELISIAVRFYBPOYPHOYCHAYXQDPQDBZLO
UABOYDFOLULWSALSECBUUUQLLFLXAYBGEHAFAUVRUZQRPPQPAFYHWPQKTOBVEDBDPVKVIK
LQTRKRWZRVPLZWVLELCSBOOJXWEKXWPHONIUDOOAZHDHODNKDOEUEDVLKUELPHWOVPED
EBDVBVIATDNAJHTOBUEZPRMBZKTLIOMLGXSAPWAYQDTAEHBLDLNUFQGAEHRLTDSHTDRHCH
WFBDRZCUOTKRWURFLLXUWHOWHLTKOSBWHPKJASIWHPPHVLOBTOFQGPPJOUBMUZQJOUB
WHLOHWLOHSBOYICLUSOBUEAEHRLKRBVABKUBZWOLVTHOWEKFWIATDSAEHMHZKIUBVIKLQT
BKGEYPWAUAGEMBQSLKHTDLUKJLPPBQHRUBZPVTHRMROHVLNEKFQTVBYEYVWHPKJTYRVTLA
WOYRQIAXOLAEHYZXBIADRTZJDRAXQEDLUDLORFPKWESILGLKFEAEHNPQVADXOLWBRPSBDSH
QKRLXWNVQMUZQWHLLQEZLQTOBRTOBUSPAHDLZLDLARUACDTLFQATFFRVPHCVKGEEQHRTF
QAAFRNKFGNAPHEAEHWHOLWHPEOYKDFABUIUQKEYRLNZDUEDRSTOBUEZQDRCFQGOFGIUDI
RVJWHLENSAEHWOXWHBKWEYHLLSBUSWXWRVIPAJELNLPEUPIGIUXXTVJDTLAIAJQRRPBVMVPW
OMRVWLOHRVRQDLAXPWRWIUZDMWPIOYLUDLOOYKFVPVPDLIRUNLALNIVOAZBUSJXQSVJHOM
RVWLOHKLMWASFYEALZOYHOOHALNNYRDPBVTOBGIZMRSHIXNPQVRHKQINEWAUAGAFTHWLO
HTOXWCSLVEALJOPKJOBQIOYBYEYYXTAEHRLTDSVKHMHKZHVQDUNEWUZQRFPDKTALVTVOPTO
BZIYBRFAEHCHJSSALVMHPKTOLVETBWASJRTOBUFBZNEYPLNALMUUHKEARUNLALTHORUUAKEI
ORUNEWUZYDCRCUOTQKEIOLNRMDUZBKIZKDMLFVCVKQOYGRHUZRNULUYVRUSVKVAYXKYVR
UUUYRRUPRN

---**TRIAL 7** ---
key: "meee"

XBHHLELWGEUNAKUNVYXBEYWMLOAJZDOHTRDCFCDHBHDLQVBMLXWVLFHDKVHBPSVJVNRW
QWDTBKVXRXGDKVHBPSVJVNRHLEXWAOUBQKQMAYBXREQMBBVCXXGHBCGXKDKDODPNFWK
NOOWXEOOYVYXABOVNPOUPBKQCQOFQZYPJPCLPKOGCLZUXQOFCVYXHLEYNYOHWQKUPBD
WNAPRAQOUVFXDCFYQRAYQCHXRFFDOXLUVUFUHRQWLPEDVYOODMQYWQFCIDOXLCRBHFX
BHQLEVNXMUXPCWQBKOUBIWQBZDRKDRWQRHFXVOBPDDAQSQPQYEUFCWNOESKBDWNOQ
HCXXRCEOUCOEFTOYXWADRCESVBFNHCESVRPKPRPDDTBSKJSOQCAYQNXXBCESQPKYEDQIR
DTSOUFDVEBBBRJZRAQKQCQRDCVYXUFFHRZKQCYOORBFHCESVRPRDYMOQRKQKXTMRDINW
QXXPJKQHCRZDOQOUHLEQXQKPJKKWNOWLWXDRAZIENONBWXWLLPWRMBVVDPZHLQFHQFM
ONPSJQQOGXKWRCLBDCMSFXPYXCELRDKNXWFDVCTYCNOYVRUKQMCSYNPOYNKKWCBWSCF
XWNOMHYQEQRQYQNCYXAQRUNBMRVBSQCESVRPYQNCYXAQRUNBGHBQLRDKNRWLVBVMSF
JMZUXXMKRKQREBBOJKNDROEQRQDZXTOUNLXKRJGHBQLRDKNVJKDDVLXLLXKWOLEUIBBROFF
HJJKFQFXHHLEPNXXORHODALLRCKYWJOYEXQMBKLBJLVLHAKOWRZYUPXXLBJLXCEOZJPLONBN
LWDTXBQKVNZYQMHOHYVYXAEODMAYZWIYVCESPPLYGLLFHAXVURDRWUFCWNKDKNQOUVFX
DCLBVJKSQOFVWAXDLXKEQRQZDAQWDWMKUCJKFQFXHDKNHAKODCESWBXRBYBBDUIYBLLW
EJQMKJPCLBJSULLZUXZOVBLBFXKDUXIVHMCEOUVKUVLBHMSOUHQYXPELXCLEWBFNHRQCOR
SSQPEEPJKDLBPEHOIOVQPULWEKLAYVRXAQUXTXIXODKNZIEXOQVULYNABOVNFUQXTIRDTKQC
QYKNIZEDQZDHXDWNKDLXKDKNPOURBCKJABXKYOUBHSQFBCSXQDHMQRHVBKVHYEWCEOV
NXBHWBGWQBIOXLUKDJKQBTODCYKGKOODCEOYNOIWQFXJEBBBQXBGCLCSXQSKJADRFXSWC
FVKNJYYNAYQHLEENCYUNFMRDINCNOYKRJRHHFWQXQCWDMSGHHXRFQRHHZKQCYELUAKQH
QRLWDVLTBDKJQIHCKYQXQIHCKYWOLBDKLEWOLBWHVODAPCRRQCIALWWQBPXCRBHRPDKJ
QBLPEDRWBZRBPSEUBPXCRBHOLEUHLEUYLSQCLPYRBGLMLXWTKYZCEOWNZRVCRPIJKNBXRB
HOOYPCEOIDQEUNQYRAFQKCOSJQQMBKLBJBAYQCCOHUMKLWFNRMLXWMLDKJQKJJFXMDPD
ONQWHPLVLBQOQDKNHAPDDWADKJQDHAJSQJQYURPYXCQRHABSWLXXWKBBHJPYQNAGLCES
WLXXWKBLDADKLWBNZRQRLCAYHBKDINBVSRQIROOOPXOCHXOPHJOKQMFDDKPYODQOOHTS
OUKYWBQYSNSOUDKDLUVYXJOOGNXNFJKIRDPDRYFDPJVLHFFDKCEOVNTODYLXVRAYQCHXRFP
EVYBMWEBRLLIOOXZKWNAKWYXBNRKQOXQMHMXBDWAQONKRDEBXUNBCHFEIPNTRBMLOVR
QGDWQWHCEOUNPCRVRMKCBVOVBTXBQCWJODDCQRHKBQLWKSQPQRHABGDBXGDAXPHFV
ODAPPUXJXRFKEFUBKUFXBWQBGKXIOWQFXJJIVWQFCHEBBBCESQPFCJXKOMDPDJXKOWQBBH
FBBHBRBYRSYUBEOUNQRHABXRKLNBTKOZFEYVCXBWNASWRQGDBQRHVXMKRKOVRAYQCRXG
NOCWJKNGNCOQBBXHCTYUTZYPYRDHAKOZYLGHACEOQLYNNASQCLOYNOIWQFXJCOEVCBNW
XOEQRQKOUQRHHPKBRQQRCPWDAQKQNTYUMBBROFXWNIVLPBXFNQRHWFDVJTKOUMORYIO
DBXDKABKWWLDMDPDWQBYQNPYQCEORCEOUBFNHMBMLMBNRDQPDCBSQJJSFALCHLLXGN
UDHAJSQJQSRWASGWQCHNQRHFXBLFXCEXOXDOQOURKDKNOELWPQUNTESCEOUNPDDASS
QPESGRKQIALWWQBRNBQRHFEKWQRXWNOULUIOUBMKWALVPJZRLWBCEDFVGRKKXCLWDCB
NIJZDRAFOVVLCWXCEVFBBHALEQMBNXYMEWRKMDVMCIXOYUMBBOHASVYLCDUYEUWBNLWYI
OJPOUBZKQBLWHXCEVFBBHTBZWJISYNQYZXOUOXXNLWDLRMFOVCEOGRPZRBXVXWFDVAXXQ
RDRWJKNGJVGHFBBHCEKWLIYVNQYJXFXJXRDIXOOYNOLXCQRHABGDBLXHVXXZQLDDDDRWDP
DROFQKCQYVCLBPCEOZROOROQRHLXWSBQYVVXCKCEYVNJOWJIWRCEOUORMNNOCLWQYM
DKUKNQEUWBNLCXBRDKNKNYBRDDRWDPLDLHPUXJDKNYBLWHZDDPOKRPXDVBSVLLXQXOTR
QKMRWKYUHLEUBLXVJOKKHLEUDKLRAKCRW

--TRIAL 8 --
key: "ghee"

DYHHRBLWMBUNGHUNBVXBKVWMRLAJFAOHZODCLZDHHEDLWSBMRUWVRCHDQSHBVPVJBK
RWWTDTHHVXXUGDQSHBVPVJBKRHRBXWGLUBWHQMGVBXXBQMHYVCDUGHHZGXQAKDUAPN
LTKNULWXKLOYBVXAHLVNVLUPHHQCWLFQFVPJVZLPQLGCRWUXWLFCBVXHRBYNELHWWHUP
HAWNGMRAWLUVLUDCLVQRGVQCNURFLAOXRRVULRHRWTLPKAVYULDMWVWQLZIDUULCXYH
FDYHQRBVNDJUXVZWQHHOUHFWQHWDRQARWWOHFDSOBVADAWPQPWVEULZWNUBSKHAW
NUNHCDURCKLUCUBFTUVXWGARCKPVBLKHCKPVRVHPRVADTHPKJYLQCGVQNDUBCKPQPQVE
DWFRDZPOULAVEHYBRPWRAWHQCWODCBVXULCHRFHQCELORHCHCKPVRVODYSLQRQNKXZJ
RDOKWQDUPJQNHCXWDOWLUHRBQXWHPJQHWNUTLWDARAFFENUKBWDTLLVTRMHSVDVWH
LWCHQLJONVPJQWLGXQTRCRYDCSPFXVVXCKIRDQKXWLAVCZVCNUVVRAHQMIPYNVLYNQHWC
HTSCLUWNUJHYWBQRWVQNIVXAWOUNHJRVHPQCKPVRVVQNIVXAWOUNHDHBWIRDQKRWRS
BVSPFJSWUXDJKRQNREHYOJQKDRUBQRWAZXZLUNRUKRPDHBWIRDQKVJQADVRULLDHWORBU
IHYROLCHJPHFQLUHHRBPNDUORNLDARIRCQVWJUVEXWJBKRYJLBIHAQLWRFVUPDULBPIXCKLZ
JVIONHKLWJQXBWHVNFVQMNLHYBVXAKLDMGVZWOVVCKPPPRVGLRCHADSURJOWULZWNQAK
NWLUVLUDCRYVJQPQOLSWADALXQBQRWWDAWTDWSHUCPHFQLUHDQKHAQLDCKPWBDOBY
HYDUOVBLRTEJWJKJVZLBPPULRWUXFLVBRYFXQAUXOSHMIBOUBHUVRYHMYLUHWVXPKIXCRB
WBLKHRWZORYPQPKBPJQALBVBHOOLVQVRLWKHLAESRXGNUXZUIXUAKNFFEXUNVURVNAHLV
NLRQXZFRDZHQCWVKNOWEDWWDHDAWNQALXQAKNVLURHZKJGYXKELUBNPQFHZSXWAHMW
OHVHHVHEBWCKLVNDYHWHDWQHFOXRRKDPHQBZLDCEHGKULDCKLYNUFWQLUJEHYBQDYG
CRZSXWPKJGARFDPWCLSKNPVYNGVQHRBENIVUNLJRDOKCNUVKRPOHHLTQXWZWDSPGHNUR
FWOHHFHQCEBLUGHQHWOLWJSLTHAKJWFHCQVQXWFHCQVWORYDKRBWORYWHBLDAVZRR
WZIARTWQHMXCXYHRVAKJWYLPKARWHWRBVPEUHMXCXYHORBUHRBUYRPQCRMYRHDLMRU
WTQVZCKLWNFOVCXMIJQKBXXYHOUVPCKLIDWBUNWVRALNKCUPJQWJBKRYJBGVQCILHUSHLW
LKRMRUWMRAKJWHJJLUMDVAONWTHPRSLBWLQDQKHAVADWGAKJWAHAPPQJWVURVVXCWO
HAHPWLDUWKHYHJVVQNGDLCKPWLDUWKHIDAJHLWHKZRWOLCGVHBQAINHSSRWFROULPXU
ZHXUMHJUHQMLADKVVODWLOHZPOUQVWBWVSNYLUDQALUBVXJULGNDKFJQFRDVARYLAPJBI
HFLAKCKLVNZLDYRUVRGVQCNURFVBVYHJWEHOLLOLOXFHWNGHWYDYNRQNOXWJHMDYDWG
NONQODEHUUNHZHFKFPNZOBMRLVRWDDWWTHCKLUNVZRVXJKCHSOVHQXBWZWJUADCWO
HKHNLWQPQPWOHAHDDBDDDADMHFBLDAVMUXPURFQBFUHHUFDYWQHDKXOLWQLUJJOSW
QLZHEHYBCKPQPLZJXQLMDVAJXQLWQHYHFHYHBXYYRYVUBKLUNWOHAHURKRKBTQLZFKVVCD
YWNGPWRWDDBWOHVDJKRQLVRGVQCXUGNUZWJQKGNILQBHUHCZVUTFVPYXAHAQLZYRDHAI
BOQRVNNGPQCRLYNUFWQLUJCUBVCHKWXUBQRWHOUWOHHVHBRWNRCVTDAWHQNZVUMH
YROLUWNOSLPHUFNWOHWLAVJZHOUSLRYOLDBDAKAHHWWRAMDVAWQHVQNVVQCKLRCKLU
BLKHMHJLMHKRDWMDCHPQJPPFARZHLRUGNAAHAPPQJWPRWGPGWWZHNWOHFDYLFDZEXU
UDOWLURQAKNUBLWVNUNZBSCKLUNVADAYPQPKPGRQNIARTWQHONBWOHFKHWQXUWNUR
LUOLUBSHWARSPJFOLWHZEDLSGRQHXCRTDCHKIJFARALLVVRZWXIBVFHYHARBQMHKXYSBWR
QJDVSZIXUVUMHYOHGPVYRZDUEBUWHKLWEFOJVLUBFHQBRTHXIBVFHYHTHWWJOPYNWVZXU
ROXDKLWJIRMLLVCKLGRVWRBDSXWLAVADUQRJOWJQKGJBDHFHYHCKHWLOVVNWVJXLUJXXAIX
ULYNUIXCWOHAHDDBRUHVDUZQRADDJOWDVAROLNKCWVVCRYPCKLZRULROWOHLDTSBWVV
VDZKCKVVNPLWJOTRCKLUOXJNNUZLWWVMDQRKNWBUWHKLCDYRDQKKNEYRDJOWDVIDLNM
UXPAKNEYLWNWDDVLKRVUDVHPVLRUQXUQRQQJRWQVUHRBUBRUVJUHKHRBUDQIRAQZRW

---**TRIAL 9** ---
key: "fern"

EBUYSEYNNEHEHKHECYKSLYJDSONAGDBYARQTMCQYIHQCXVODSXJMSFUURVUSWSIACNENX
WQKIKIOYXTURVUSWSIACNEYSEKNHOHSXKDDHYOOYEDDIBITEXTYICTORDXUVDCEMWXEVOJO
LOBPCYKRIOIEWOHGIKDTXOSHGYCAWCYGROTTSZHOXOSTCYKYSELEFOUNXKHGIDJEHPERXOH
MMXQTMYDIHYDTOXEWMDBOSUILMUUIXWYGLDIPVOQDXYJHMCVUVXYTYBUWEBUHSEIEEMHO
WCJHIKBLIIJHIZQIRDENXRUWEVBSWDQRXSDGXYRLMCJEVEFBIDJEVQUTEXETLOHTVESKVYKNHD
ETLSISMNUTLSIIWKCIWDQKISXAZODTHYDEEXOTLSDGRYRUXIEUASBLMDIVIBOIQZERXKDTXRQTC
YKLMFUIGKDTFOBIIFUTLSIIWRQPTODIRQXOAMEUPNJHEXCARQUTYZQFXOHYSEDOXKCARKJEVW
YNEDERGIREVNONEWYCWWEDIVIUWZUCXFUHMMBEWSWHXOTORWETSBQTTSSOWYKTLLEUR
NKNMDITAYPEVYIIBKDDJSLEWOLERKJTIWFTMXJEVMUPXEDIXYDEJYKRXRHEIMEMISDTLSIIWYDEJY
KRXRHEIGUSXLEURNENSVOMTSSATZHOEMXIRQEVIBBARNQIVEDIXDMOAOHESXXIQGUSXLEURN
IARDQMSXYCEKJFSEHZIBEFMFUAQKSHMXUYSECEEXBIOOQRSLETRYJAVYROXMOBSBWCCLURR
OJIGYHGEXYSQLKTLOMAWLBEINYNKTKSXKIEGYDDOOUPCYKRLOQDHYMNPYITLSCGSYTCSFURE
VHIKRJLMCJERDXEXOHMMXQTSBIARSDFMVJREDYOREDIXZQRXWQNTKHTQKSHMXUURNURROQ
TLSJSEROPIBQLPYOCSWRAXMXAWCYSQSHCSZHOGOISSBSORDHOPVUDJEBLCKHMSBUDZOHY
XYKGLLKTSEJSMNUIXCBIZSDGLECARDYSWEUFPOIHWUYNLKYRFVEOHQHOAXVOVDXEGIROVQIL
SYARIOIEMUDOAIEUAKDTXYXEPZRUXZQYEDJERDYORDXEWOHIICXAHBKBFOHSOSDWICFOXDUD
XRUMIKIYFEJTLOIEEBUNIGJHIIBOSUXUQKDSAOQTFKTBVOQTLOLEVIJHMXWVIBOHEBTTSCFOXSX
AHDEWESJTMVXEQYLEHYDYSEREJYHEMMEUPNPEVYXIQRUYMWDOXCJUTSTYOXEWXRUYGKDTFE
YLHKDYXRYNKVYKIDXAXIUTRYDOXIUTRYJFSBQBSEJFSBJYCOQRWCEIXCVRSWJHIPKTYBUIWDXAX
BYGLDENIZESWSRLIPKTYBUFSEHYSEHPSSDTSPLIIGYDSXJKRYMTLOJEGRITYPVARNOOYBUFVYCT
LOVUXEHEXYERMQXTVSWHXMOBSBWSHYDTJOULTKYNMNEDSXJDSDXAXKWAMXZUWDBEXWUG
SVYSXODURNURWDQNHDXAXDURQSDAXYHIWYKTXRURISJCEXJBIBUAWYDEHGYTLSJCEXJBILQR
KKYNINMIXRYTHYUSRDVEIVFIXIEFVOCOVCUOVPUAVKDDMDQBWYBUXOBYASBLRYJSXYFEZOHU
RDYLCYKAVOTEENSARIEUWDEPMDCACLUWMDXTLOIEAOQPSXIIHYDTOXEWWEIPIMJVIRYCPOBO
GKJEHKJPEBAIRQBOXMUDEBQNHQBERRQVIXHEICUWLICEARODSOIIXGQNXWUTLOHEWCEMYM
XTIVBMITKSXCJAVDQTXRUBIQYNRSDGXRURIGQSEGQREPUWCOQRWPHOQXEWRESLIKHWEBJHI
GXOPOJHMXWAPVJHMCUVIBOTLSDGMCWOROZUWDWOROJHIBUWIBUSYBLIZYHSLOHEXRURIX
EBSNOKROMWLYITEBJEHSJIXGQSXRUMEMXIROIIHYDTYXTEVCJARNTEJODSIXUTAYHKGYCPYDUR
ROMPSGURJEBHSYAEHSDTSOLEVIJHMXWTVEITINJOVEDIXKBLXRUYWKOIXQETWWQRXKDEAYHDI
BEFMXJEPVYGIXSEXRUNMDIAAKBLTOEPPOQSEDXRIKJNSDZUWDJHIYDEWYDTLOETLOHSMNUDI
MYDINEUXPQTISDAQSSRSCUCSXTEBDURQSDAXSENHSTNXCUEXRUWEBYWECROVXQFXOHIRDX
EVEYNWQHEAEFTLOHEWDQRZSDGLSTIRQVRSWJHIRASXRUWLKJHYXJEVUYLPOHSTKJRSVCAGRY
NICRUMVTIRKKTSWQTINVAGDERMOIMSCJOJEIWIBURSEDDINKPTEJIRMQMTCVOVYHDIBBYHSIPS
CQLFEHNINYNFIBAWOHSGKDSSWUOJEIWIBUKIZJAPSLEXYMOVUBOENYNKLEDMOITLOTIWZESE
VKNMDIREXDIKRJARNTACGUWIBUTLKJCPYIEXYWOMXWOYDVOVOLEVLKTXRURIGQSSXUMEXMH
SDQUKRJUWDEFMQXTXYITSBCTLOMIVOEFXRUCEWFSXYIMECXTLYIEQOJAPWETLOHFYMAEVCYN
XYZURUXEXEHNINYTEBEURNXEFBEUKRJUWLQCOPHOQDXEFBYNOZQUWOXIWXQMISICSXDOVT
EHRMENRYHYSEHSSXIAVKXYSEHURLERRCEN

---TRIAL 10 ---
key: "pron"

UOXYIRBNDRKEXXKESLNSBLMDIBQAWQEYQETTCPTYYUTCNIRDIKMMISXUHIXSMFLASAHNNJTKY
XLOOKWUHIXSMFLASAHYIRNNXBKSNXGDXLROORGDYOLTUKWYYPWOHQAULQFECJAELBMOBB
EPSLNRYBLEMBKGYXGTNBVHWLFAMPBGHBWTIMKONBVTSLNYIROEVBXNNXKGYQMEXCHRNBK
MCKTTCLGIXLGTEKHWCQEOIHLLCHXINJBGBQLPLBTDNLMHCPYULKBTOOXWUOXHIRLEUZKOMP
MHYXELYVMHYMTIHQHNNEXWUIESMQTRNFGGNLULCPMELRIBYQMELDXTUKHTBBKTLRVKLLNN
XQHTBFLSCAXTBFLIMXFIMQTKYFAAPBGTXLGEUKRTBFGGHLUUNVHUQFELCQLVYORIGMHRNXGT
NETTSLNLCSXIWXGTVBEIYSXTBFLIMETPJBGIHDAOQZHUFAMHUKFAHDXTOMTFNBKYIRGONXFAH
XMELJBNUQHRWVUELARNUJBCMJHDYILUMMXCNSXHCZEEMFZHNBWOHJHTIOTTJFVOMLNTBYH
UHANNCQLTQLSELLLIRXGDZFOEMBOEHXMTYJITCKMELZXPNRGINLGEZLNRNEKEYZHMYFGTBFLI
MLGEZLNRNEKEYTXSNYHUHAHNIIRMJFVAJMKOUZAIHDHVYOEAHATILRGINQPOQBKEIKAIGTXSN
YHUHALAHQTMIKBCUXMFIRKZYOHFCSXAGXVHCKXYIRFEUKEIEBTRIYHTHLMALLUONZRBIOZCSY
XRHBMIWLKGUKBSGYNTBBPAMYEEYABNAGNSNXLEWLGDEBXPSLNRBBTDXLPNFLLTBFFGILWCIS
XRUIKIAEMLCPMEHQAENBKMCKTTIOLAHFGFCIMRUQBOHRGINMTRNJTNJXKTGXVHCKXUHAXRH
BTTBFMSUERPYOTLFLRCIJUANZAAMPBSGFKCIMKOWBLSIOVOHQKOFIXDZRELSXKMIOXDPBKYNL
NGBYNTIRMSCAXINPEIPFGGBRFAHQBSMRXFFBLHMHBNBXBRVIHOXDKOQKYOLQAEWVUOLDLLI
LDRYBLECHGOQVHUQXGTNLAEFMUUNMTYUQMEHQBOHQAEMBKIYPAAXONBVBKSEFGWYPION
QXDNEXMYXLYVRMTBBLEUOXNYTMHYVEOIHAUGXGSQBTTVXWBLBTTBBOELVMHCKZVYORHUO
WTIPIONFAAXQHWUFMTCIAEGLOEXLGYIRUEZLKECZHUFASELLAIGEXYCJGONPMUJFWYEKHWNE
XYWXGTVRBLXXGYNEBNAIBKYQAANVXTHLGONVXTHLMFIOTBIRMFIOMYSBTRMPHINPYRIJMHYCN
TOOXIMQAANOBGBQHNYMHSMFULYCNTOOXFIRKYIRKPIFGTICOIYTBDIKMKHLPTBBMEWELTOCY
AHAROOOXFLLFTBBYUNRKENLHRCDATLFZHNZRBIOZSXLGTZBXLJXBNCAHDIKMDIQAANXZACKC
UMQEENJXGIIBSNBGUHAXRMQTNXQAANQXRGFGANLKIMLNTNEXRYFMCUKMBYOXAMLGEXTBTB
FMCUKMBYYTRAXBNYAPINEBTXLXSHQYEYIIINVHFLBFOLPXOLCXALXGDCQTBMLEUNBEYQFELHL
MSNLIEPBKUHQBLSLNALBWEUAVAHVHUMQHPCQFASYXWCQATBBLEQBTPIKLIXLGTEKHWMRLP
YZMVYEBCFBEOWXMEXXMPUODIHDEONZXDUOTNXDEEHETVYKKEYPXWBVFEQERDIBLINTTNNJX
TBBKEMPHMOZATYIEMYGNSNPMALQTTNEXBYDBNHFGGNEXRYTTSUTTRUCXWSBTRMCKOGKHW
HRVLYXKWUOMHYTAOFBMHCKZAFIMHCPXVYORTBFGGCPZOHBCUMQZOHBMHYOXWYOXSOOO
IPLKSBBKENEXRYKHBIARKHBPWBLLTUOMEXFMINTTSNEXMUZAIHBLIXLGTOKWELPMAHAWEZBG
SYKXTQLKKWLFPOQXRHBPPITXRZREHILDEXFGTIBOELVMHCKZTLRLTYAMOLRGINXELNEXYMXRIN
DHTMJTRNXGEQLKDYOHFCKMEFIBGYKVENEXNCQLAQXELJBHPFBTSUQARYXMNIQCUMQMHYLG
EMLGTBBHTBBKSCAXDYZBDYAHUNCTTYFGAGFVRIPXCIKWERQXRGFGANFHNXFWNNPXENEXWU
OBWUPUOLKTFNBKIHQAELRBNMDKEQRITBBKEMQTRPFGGBFWIHDYRIJMHYEDSNEXWBXMHOK
MELHBLFBKSJXMRIIFAWEBNYPUUCIWIHXNTIJTTYAYAWQHRCBLMIPMOZRLWYOXRIRGDYANPJRMI
HZTMJPYOLLKDYOEYXFLPIPTLVRKNYABNVVEAMBKSWXGSIJXOZRLWYOXKYMMAFFOENLPOLHEO
UABNAYHDCBLTBBWIMMHSUINNCQLRUKGIAEMAHAWASTXWYOXTBXMCFLLENLZOCKZOOQYOL
BOELYNTNEXRYTTSIKXMUKPHIQTUAEMUMQHFCDATNLLTIOFTBBPILBHFNEXCUJISNLLMUPATBLL
EGBMAFJHTBBKFOZDELPBNNLCUHHAENRKNYABTUOHUHAAEVOHUAEMUMYTCECKOGQAEVOB
NEMTUMBAIMKTMYFLCIKGOLGHHHZHNHLKYIRKSIKLALXAYIRKUHYHRHPHN

--TRIAL 11 --
key: "jkbe"

AVKHOYOWJYXNDEXNYSABHSZMOIDJCXRHWLGCIWGHEBGLTPEMORZVOZKDNPKBSMYJYHUWT
QGTEEYXURJDNPKBSMYJYHUHOYAWDIXBTETMDSEXUYTMEVYCARJHEWJXNXNDRXSNIQNNRIZXH
IRYYSAAEIYNSIXPEETCTIIQCSSJSWOPNIJCOTXXTIICYSAHOYBNBIKWTEXPEXZNDJUATIXVIRGCISTR
DSTCKRUFIXRXOOYUIOKRTQOPHXYYRIGMTSZQIWLDRROCUVKFAVKQOYYNAGXXSWZQEERUECZ
QETGRNXUWTLKFAPRBSXGATMTPTSHUIWZNRYVKEXZNRKKCARUCHIXCRYITRSAWDXUCHMYBIH
KCHMYRSESRSXGTEMNJVITCDSTNARECHMTPNSHDTCUDWMRUIXYEEVERMTUATETCTLGCYSAUI
ZKRCETCBIRREZKCHMYRSLGYPITRNKNXWGUDLHZQARSJNKKCUTGOTIXHOYTXTESJNEZNRQOW
AXUACCHNRHEWAQOLSQUMEPYDSTKLTZKQIGRNSMMQTIJXNQUCOVGCPMIXSSACHFUDNHAWI
XYCWSFNRSYRXETMFMBNSIBNNEZCEQVCIRZNRGKYTYTRTSTNFSAATLXNEGUVEMTCHMYRSSTN
FSAATLXNEAKBTFUDNHUWOPEVPMIJPTXXAGNRNKUEEVRJNHGRRYTRTXCXWIXNORNRMAKBTFU
DNHYJNXGVOROLAEZOOYXIEVUOIZKJMEIQIRKHOYSNARRRKIGAOFUCNSZJRSHXTGEKOVMLYFKA
NIZRCSXPAROBMFACHICJSFRNEHOWGNABTEYNCSTMKIKYYSAAHIGMDSCWLSYCHMSPOSJLOZK
AAPXRGLZUIWZNNXNNTIXVIRGCOVYJNMTOIPZAAXOXNYTRTTGATQGWPEXCMEIQIRKDNHKANIG
CHMZBALEYEVGULSELOQHJTGNJSWOBMMXLOTXXCIYBOVIXNXXXLPKMFYRUYEXVOVKMVIXHTSA
PHFACOYZBIHKRTWRRVMTPHYSJNXOBSYKOLIYQSOOWHEOABPUXDKXXWRLXRXNNCCHXRKYU
OSQAEIYNIOTXWCUDWETCTSNNLTHDTTGHAXZNNXOXNXNNSIXREWNJDVAKBIXBKMTFEWVXTXK
MTLKVEEYHBYZCHIYNAVKWEAZQECRXOONDMETBWIGCBEJKRIGCHIBNRCZQIRMEEVEQAVJCOW
VXTMNJDXUFAMZCIPNNMSBNDSTHOYHNFSXNIGUDLHFNRSNRMLKHIQTXTWZDPMJHKRUFTLKH
CETCBYOUDETHTLOWGPOTEXNJTCKCNSTXTCKCNSZOOVGKOYZOOVZHYIGASWURTWLAOQZQEJ
ACUVKRSXNJTVOPHXUWETUBSMHUEJACUVKOOYXHOYXYOMTCOJBREAOMORZTNSCCHIZNCLY
CUJLJNHEXUVKORSSCHILDTYXNTSUAIKNCRMMQTGEKOVMBDSTCFIKUPEOWIHUMORZMOXNJTE
MJIRPDSXRNTQKPOPOBTITDNHKASXGWDXNJTXKAMMTJTSXRSSACTLKAEMZLARZKEVKJSSTNDAO
CHMZLARZKEFGAGEOWEHCRTLOCDSKBNXLNEPVRTCUORISXRWKXRJKJRETMIXGKSSRDTIRHWM
RUNSZBTSVNVIXDNXOUYSAJRIJNAHIJNCUDSXUYIXSJYFKFIXNCHIYNWIGYORYRDSTCKRUFSYYYE
GZEELOLLIRXCEZNDEZYAVQRNKRXTGKMAVGWDKRNNLGEERXNEWKFHCSNWLEMOIYRTAGWTQ
KCHIXNSWUVUGNCEPRVENABTWZJRXGCTLKKKEKOWNMTPTLKAEAGBAAGAAJKFYIGASJXXMRUFN
YIUEEXFAVZQEANXLIZQIRMJLPZQIWKEEVECHMTPIWMXNIPDSXMXNIZQEVKFEVKBUVBRVSXBHIX
NTLKAERUKOHETNICFHSYCAVZNDMZRTAGBTLKVAGNRNIYRDSTCURJNRWZJNHJNFITBERKCWSX
TCSSYUXKANICYOAKAFYRQOSQNDMTCOIBNRCZQIRMCRYYCEHZXRYTRTERUTLKHSEERTKUCSQ
GATETNWSXMEVUOIRZNLPOPERINTLKWIXYJWERUPIUYLIGBAXNAEEZWOXPDSXZQESTNSSTCHIU
CHIXBIHKMEGOMEHUDTJGCEMTJMMIAOWKLORJNXXKAMMTJTMUWDMJWTWKNTLKFAVOFAWHX
RRGOTIXRNXNNRYOWSKXNWYVCHIXNSXGAVMTPHMJRNKLAOQZQELQBTLKFHEZQURZNROOULI
XBPEZAOPSJCLOWEWHDIPJRNEACOQGCEHLJCXUAIIYVOWZXFYYFEVKAOYTMEHAYPYZRNGGVP
WLXRSXMEVRHDMYYOWGUBYXWEHOWBCRJSIXBCETBOQKXFYYFEVKTETZJLMBNTSCXRORXAH
OWGFUMIIYCHIJRSTUBAPAWIXYAARTRGLZJNHJJYAKFEVKCHEZLLSYNTSMXIRMXUXLXRIBNRFACTL
KAEAGBORKVARCQOXGDGLZDSXUOIKNCTSYCOVSCHICRRIUOTLKLAQVBTSYVAWNCHSYNMIZJL
QUCHIXOUGQNRWOWTSPDNONNTYXWEHOCAVUDNHNNBVUDGLZDSFGLKJXXMXNNBVOWKTG
DSINRSRGVEMYLORTXRNUQNGUWNSXHOYXBORYJRENHOYXDNFUANWUW

---TRIAL 12 ---
key: "jkbe"

AVKHOYOWJYXNDEXNYSABHSZMOIDJCXRHWLGCIWGHEBGLTPEMORZVOZKDNPKBSMYJYHUWT
QGTEEYXURJDNPKBSMYJYHUHOYAWDIXBTETMDSEXUYTMEVYCARJHEWJXNXNDRXSNIQNNRIZXH
IRYYSAAEIYNSIXPEETCTIIQCSSJSWOPNIJCOTXXTIICYSAHOYBNBIKWTEXPEXZNDJUATIXVIRGCISTR
DSTCKRUFIXRXOOYUIOKRTQOPHXYYRIGMTSZQIWLDRROCUVKFAVKQOYYNAGXXSWZQEERUECZ
QETGRNXUWTLKFAPRBSXGATMTPTSHUIWZNRYVKEXZNRKKCARUCHIXCRYITRSAWDXUCHMYBIH
KCHMYRSESRSXGTEMNJVITCDSTNARECHMTPNSHDTCUDWMRUIXYEEVERMTUATETCTLGCYSAUI
ZKRCETCBIRREZKCHMYRSLGYPITRNKNXWGUDLHZQARSJNKKCUTGOTIXHOYTXTESJNEZNRQOW
AXUACCHNRHEWAQOLSQUMEPYDSTKLTZKQIGRNSMMQTIJXNQUCOVGCPMIXSSACHFUDNHAWI
XYCWSFNRSYRXETMFMBNSIBNNEZCEQVCIRZNRGKYTYTRTSTNFSAATLXNEGUVEMTCHMYRSSTN
FSAATLXNEAKBTFUDNHUWOPEVPMIJPTXXAGNRNKUEEVRJNHGRRYTRTXCXWIXNORNRMAKBTFU
DNHYJNXGVOROLAEZOOYXIEVUOIZKJMEIQIRKHOYSNARRRKIGAOFUCNSZJRSHXTGEKOVMLYFKA
NIZRCSXPAROBMFACHICJSFRNEHOWGNABTEYNCSTMKIKYYSAAHIGMDSCWLSYCHMSPOSJLOZK
AAPXRGLZUIWZNNXNNTIXVIRGCOVYJNMTOIPZAAXOXNYTRTTGATQGWPEXCMEIQIRKDNHKANIG
CHMZBALEYEVGULSELOQHJTGNJSWOBMMXLOTXXCIYBOVIXNXXXLPKMFYRUYEXVOVKMVIXHTSA
PHFACOYZBIHKRTWRRVMTPHYSJNXOBSYKOLIYQSOOWHEOABPUXDKXXWRLXRXNNCCHXRKYU
OSQAEIYNIOTXWCUDWETCTSNNLTHDTTGHAXZNNXOXNXNNSIXREWNJDVAKBIXBKMTFEWVXTXK
MTLKVEEYHBYZCHIYNAVKWEAZQECRXOONDMETBWIGCBEJKRIGCHIBNRCZQIRMEEVEQAVJCOW
VXTMNJDXUFAMZCIPNNMSBNDSTHOYHNFSXNIGUDLHFNRSNRMLKHIQTXTWZDPMJHKRUFTLKH
CETCBYOUDETHTLOWGPOTEXNJTCKCNSTXTCKCNSZOOVGKOYZOOVZHYIGASWURTWLAOQZQEJ
ACUVKRSXNJTVOPHXUWETUBSMHUEJACUVKOOYXHOYXYOMTCOJBREAOMORZTNSCCHIZNCLY
CUJLJNHEXUVKORSSCHILDTYXNTSUAIKNCRMMQTGEKOVMBDSTCFIKUPEOWIHUMORZMOXNJTE
MJIRPDSXRNTQKPOPOBTITDNHKASXGWDXNJTXKAMMTJTSXRSSACTLKAEMZLARZKEVKJSSTNDAO
CHMZLARZKEFGAGEOWEHCRTLOCDSKBNXLNEPVRTCUORISXRWKXRJKJRETMIXGKSSRDTIRHWM
RUNSZBTSVNVIXDNXOUYSAJRIJNAHIJNCUDSXUYIXSJYFKFIXNCHIYNWIGYORYRDSTCKRUFSYYYE
GZEELOLLIRXCEZNDEZYAVQRNKRXTGKMAVGWDKRNNLGEERXNEWKFHCSNWLEMOIYRTAGWTQ
KCHIXNSWUVUGNCEPRVENABTWZJRXGCTLKKEKOWNMTPTLKAEAGBAAGAAJKFYIGASJXXMRUFN
YIUEEXFAVZQEANXLIZQIRMJLPZQIWKEEVECHMTPIWMXNIPDSXMXNIZQEVKFEVKBUVBRVSXBHIX
NTLKAERUKOHETNICFHSYCAVZNDMZRTAGBTLKVAGNRNIYRDSTCURJNRWZJNHJNFITBERKCWSX
TCSSYUXKANICYOAKAFYRQOSQNDMTCOIBNRCZQIRMCRYYCEHZXRYTRTERUTLKHSEERTKUCSQ
GATETNWSXMEVUOIRZNLPOPERINTLKWIXYJWERUPIUYLIGBAXNAEEZWOXPDSXZQESTNSSTCHIU
CHIXBIHKMEGOMEHUDTJGCEMTJMMIAOWKLORJNXXKAMMTJTMUWDMJWTWKNTLKFAVOFAWHX
RRGOTIXRNXNNRYOWSKXNWYVCHIXNSXGAVMTPHMJRNKLAOQZQELQBTLKFHEZQURZNROOULI
XBPEZAOPSJCLOWEWHDIPJRNEACOQGCEHLJCXUAIIYVOWZXFYYFEVKAOYTMEHAYPYZRNGGVP
WLXRSXMEVRHDMYYOWGUBYXWEHOWBCRJSIXBCETBOQKXFYYFEVKTETZJLMBNTSCXRORXAH
OWGFUMIIYCHIJRSTUBAPAWIXYAARTRGLZJNHJJYAKFEVKCHEZLLSYNTSMXIRMXUXLXRIBNRFACTL
KAEAGBORKVARCQOXGDGLZDSXUOIKNCTSYCOVSCHICRRIUOTLKLAQVBTSYVAWNCHSYNMIZJL
QUCHIXOUGQNRWOWTSPDNONNTYXWEHOCAVUDNHNNBVUDGLZDSFGLKJXXMXNNBVOWKTG
DSINRSRGVEMYLORTXRNUQNGUWNSXHOYXBORYJRENHOYXDNFUANWUW

---TRIAL 13 ---
key: "jenn"

ABYYOECNJELEDKLEYYOSHYNDOORACDFYWRUTICUYEHUCTVSDOXNMOFYUNVYSSSMAYNINT
WUKEKMOUXXUNVYSSSMAYNIYOEONDOLSTKHDDYSOUEHDEBMTAXXYECXONDBURDGEIWBER
ONOHOFPYYOREOMESOLGEKHTTOWHCYGASCCGNOXTOZLOTOWTYYOYOEPEBOYNTKLGEDNED
PIRTOLMIXUTIYHIDYHTKXIWIDFOOUMLIUYITWCGHDMPROUDTYNHICZURXCTUBYWABYHOEMEA
MLOSCNHEKFLEINHEZUINDINTRYWAVFSSDURTSHGTYVLICNEREJBEDNERQYTAXITHOLTREWKRY
ONDDITHSMSINYTHSMISKGISDUKESBAVOHTDYHEAXSTHSHGNYVUTIIUWSFLIDMVEBSIMZIRTKHT
TRUTYYOLIFYICKHTBOFIEFYTHSMISRUPPOHINQBOWMIULNNHAXGANQYTUZUFTOLYOEHOTKGA
NKNERWCNADIRCIVERNSNAWCCSWIDEVMUSZYCTFYHIMFESSAHTOXONWITOBUTPSWOSYOTH
LIUNNONIDMTWYTERYMIXKHDFSPESOPENKNTEWJTIXNERMYPTEHITYHEFYORTRLEEMIMESHTHS
MISYHEFYORTRLEEGYSTLIUNNINOVSMPSWAPZLOAMBINQIVEBFANNUIREHITDQOWOLEOXBIMG
YSTLIUNNMANDUMOXCCAKNFOELZEBIFIFYAMKWHIXYYOEGEAXFIKOUROLITNYNARYVOTMSBOB
ACYLYRNONICYLGAXCSMLOTHOQASLFEENCNGTOSTKMECYHDKOYPYYORHOUDDYQNLYMTHSG
GOYXCOFYRAVLIGRNLICNENDBETOLMIXUTOBMANSHFIVNRADCONEHITZURTWUNPKLTMKWHIX
YUNNYRNOUTHSNSARSPEBULLYSCOWVATMBASCCSMSLCOZLOCOMSOBWONDLOLVYDFEFLYK
LMOBYDVOLYTYOGHLOTOENSINYITCFIVSHGHEGANDCSSEYFLOMHSUCNHKCRBVIODQLOWXZO
RDBECIVORQMLOYEREOMEIUHOWIIUWKHTTYBELZVUTZUYADNENDCONDBESOLIECBADBOBBO
LSKSHWECJOTDYDTRYMEKMYBENTHOMEABYNEGNHEIFOOUBUMKHSWOUTBKXBROUTHOPERIN
HIXAVEBSHABXTOCJOTSBADDIWASNTIVBEMYPEDYHYOEVEFYLEIMIULNTERYBIMRYYIWHOTCNU
PSXYKXIWTRYYCKHTBECLDKHYTRCNGVCKEDBATIYTNYHOTIYTNYNFOBUBOENFOBNYYOURSCIIT
CZROWNHEPOTUBYISDBATBCGHDINEZISSSVLEPOTUBYFOELYOELPOSHTOPPIEGCDOXNKNYQT
HONECRMTUPZANNSOUBYFRYGTHOZUTELETYIRIQBTRSAHTMSBOBASDYHTFOYLPKCNINIDOXN
DODBATKAAIXDUSDFETWYGOVCSTOHUNNYRSDUNDDBATDYRMSHATYLISYOTTRYRESNCAXNBE
BYASYHEDGCTHSNCAXNBELURGKCNENQITRCTDYYSNDZEEVJITIIFROGORCYORPYARKHDIDUBSY
FUTOFYWSFLNYNSTYJEVOLUNDCLYYOAROXEANWANIIUSDIPIDGAYLYWIDBTHOMEWOUPOXMIDY
HTKXIWSEMPEMNVERCCLOFOCKNEDKNPABEINQFOTMYDABUNDQFENRUVEXLEECYWHIGEWRS
DOOMITGUNTWYTHOLESCIMUMBTEVFMETOSTCNARDUTTRYBEQCNNSHGTRYREGUSAGURAPYW
YOURSPLOMXIWNEWLEKLWABNHEGBOLONHIXAALVNHICYVEBSTHSHGICAONODUSDAONONH
EBYWEBYSUBPIVYLSHOLETRYREXIBONSKNOQWHYMTABNEDSNITGUSTRYMAMBINOMIDYHTUXX
ERCNANNXEFOHSEXYTWYLKCYGPUDYRNOQPOGYRFEFHOYEEDSHTOOPERINHIXATREMTENNO
REHITKFLTRYYSKSITQITSWURTKHEWYLDEBIFIXNELVCGEXWETRYNIDMAWKFLPOIPLOUSADBREK
NNODDUSDNHEYHESYHTHOITHOLSINYDEMCDENIUTPUTESHAMSWROCYCOXXEXDYRMSHATSI
NDSXNTCYETRYWABCWACVORXUFTOLINDBERECNSQLEWEJTHOLESDURVSHGHSXINQZROWNH
ERESTRYWHKNHUXNERUCLLOLSPKNROVGACRCNECVUIVXINKOTOWUTENZACDIRIOMMOCNOF
EMWEBYROEHDENOPPENINMUMPCZORYLDEBFYDSMPOCULBELNENCNBIFASOLSCKHSOWYOF
EMWEBYKEZNALSPETYQORUFOANCNGLIDIOMTHOXISZISAVONIDMRAXHIGRNANNXAYGYWEBYT
HKNCLYMETYAOIXAOUDZOROPERLOTTRYREGUSOXYMAXQHODUUGRNUSDIFIQBTTYMTOBGTHO
QIROIFTRYCAWJSTYMMACBTHYMEMONALWITHOLFUMEERCCNTYDUNUBETELNENCTABIUNNBE
BBIUGRNUSLUCKPLOMDBEBBCNKZUUSOBISXUMESMCOXHORTIHNMINNYLYOELSOXMARKBYOE
LUNLIRNCIN

--TRIAL 14 --
key: "joon"

ARXYOUBNJUKEDAKEYONSHOMDOEQACTEYWHTTISTYEXTCTLRDONMMOVXUNLXSSILAYDHNTM
TKEALOUNWUNLXSSILAYDHYOUNNDEKSTAGDDOROUUGDERLTANWYESWONTAURTFEIMAEREM
OHEEPYONREELESEKGEAGTTEVHCOFASSBGNEWTOPKOTEVTYONYOUOEBEXNTAKGETMEDFHRT
EKMINTTIOGIDOGTKNHWITEOOKLLIKXITMBGHTLPRETDTOMHISYURNBTURXWARXHOULEACKOS
SMHEAELEYMHEPTINTHNTHXWALESSTTRTIGGTOULISMERUIBETMERGXTANHTHEKTRUVKRONND
THTHILSIDXTHILISAFISTTKEIAAVEGTDOGEANRTHIGGNOUUTYHUWIELITLVERRIMPHRTAGTTHTTYO
NLIVXICAGTBEEIEVXTHILISHTPPEGINGAOWCHULDMHANFANGXTUPTFTEKYOUGOTAFANAMERM
BNATHRCYUERDRNAMBCSMHDELLUSPXCTVXHICEESIZHTEWONMHTORTTPIVOSONTHBHUNDN
NITLTWOSEROLIXAGDFIOESEOENAMTEMITINMERCXPTUGITOGEFONRTHKEECHMEIGTHILISOGEF
ONRTHKEEWXSTBHUNDHNOLRMPIVAPPKOACAINGHVEREANDTIRUGITTPOWEKEONAIMWXSTBH
UNDLANTTMONBCAAMFOUKZERHFIVXAMAVHINXYOUFEANEIKETROBHTNOMAROUOTCRBORZC
YBXRNEMICOKGANBSMBNTHEPASBEEEDBNGJNSTALECOGDKEXPYONRHETDDOPNLOLTHIFGOO
WCOVXRALKIGHMLISMENTAETEKMINTTORLANIGFILMRATBONUGITPTRTMTNPAKTMAVHINXUNDX
RNETTHIMSAHRPERTLLORCOMUATCAASSBSMIKCOPKOCELSORVONTKOLLXDFUELYAKMORXDVE
KYTONGHBNTOUMSIDXITSEIVIGGHUFANTBSSUXFLELHSKBNHABRBLHODGKOWNYORTAECYUOR
GLLOODREELEIKGOWYHUWAGTTOAELPUUTPTYATMENTBONTAESEKIESAADRNBBEKSKIGWESIOT
TXDTHXMEALYBUMTHELEARXNEWMHEYEOOKAUMAGSWETTBAWBRETTHEOERYMHINZVERRHAR
WTOSIOTIAADTHWAIMTILAEMOOEDOGYOUUEFOKEICHULDSEROAIMHXYIMGOTSMUPIWYKNHW
THXYCAGTBUBLDAGYTHBNGLBKETAATYXTNOGOTYXTNOMFORTBOUMFORMYYETRSSHITSYROM
MHEFNTURXISTAATRBGHTHNEPHSSIULEFNTURXFOUKYOUKPOIGTOFOIEWBDONMKNOPTHEME
CHLTUFYANDROURXFROFTHEYUTUKETOHRIGATRIZHTCRBORZSDOGTFEXLPABNIDHDONMDOTA
ATAZAINCUSTEETMXGOLBSTEGUNDXRSTTNDTAATTXRMIGATOKISONTTHXREIMCANMBERXASOGE
DWBTHIMCANMBEBTRGABNEDPITHBTDOXSNTYEELIITYHFREFORSXORFXARAGDITTBSOEUTEEYW
IELNOMSTOIEVEKUNTBLYONAREWEADVANYHUSTHPITFAYBXWITATHELEWETPONLIDOGTKNHWS
ULPECMVEHBCLEEOCAMEDAMPARDINGEOTCXDARTNDGEENHTVENKEESXWHYFEWHRDOELITW
TNTMXTHEKESSHMUCATELEMEJNSTSMARTTTTHXBEGBNNIGGTHXREWTSAWTRAFXWYETRSFKOM
NHWNUVLEAKWARMHEWAOLEMHINZALLMHISXVERRTHIGGISZONECUSTZONEMHERXWERXSUR
OIVOKSHEKETHXRENHBODRKNEPWHOLTARMEDIMITWTSTHXMACAINELIDOGTUNWERSMANDW
EFEGSENXTWOKKCOFPUTXRNEPPOWXRFUEHOODEDIGTOEOERYMHINZTRULTEDMORUGITAELT
HXYSARITGHTSMTRTAGEWOKDERHFINMELLBGENVETHXNITLAWAELPEHPLETSATAREAMNOTCUS
TMHEOGESOGTHEHTHEKSIDXDECBDEDHUTFTTEIGAMIVROSXCONWEXTXRMIGATIHNDIWNTSXE
THXWARBWASUORNTFTEKINTAERUBNSGKEWUITHEKESTTRVIGGHIWINGYROMMHEHDSTHXWHA
MHUNMERKBLLEKSPAMROLFACHBNESUUILWINANTOMTTEDYACTHRIELMOSMOFULWERXROUG
DEDNPPUMINCTMPSYOROKDEREYDILPOSTLBUKNEDBNBYEASEKSCAGSOMXOFULWERXKEPMAL
IOETOPORKEOADBNGBHDIELTHEWISPHSALNNITLRANGIGHMANDWAYWXWERXTHAMCLOLETOZ
OINZOUTYOREOERBNTTHXREWTSONXMANPHOTTUGHMUSTHFIGATTOLTORFTHEPIREHFTHXCAM
ISTOLMASATHOLEMEMALMHTHEKFUCDERSBNTOCUNKAETUKNEDBTARHUNDAEBRHUGHMUSBT
CKFKOMTAEBRBNKPTUSEAISNTMEILCONGORJHHNCHNNOKYOUKSONLARAAYOUKUNBHRNSHN

---TRIAL 15 ---
key: "jkon"

AVXYOYBNJYKEDEKEYSNSHSMDOIQACXEYWLTTIWTYEBTCTPRDORMMOZXUNPXSSMLAYHHNTQT
KEELOURWUNPXSSMLAYHHYOYNNDIKSTEGDDSROUYGDEVLTARWYEWWONXAURXFEIQAERIMO
HIEPYSNREILESIKGEEGTTIVHCSFASWBGNIWTOTKOTIVTYSNYOYOEBIXNTEKGEXMEDJHRTIKMIRTTI
SGIDSGTKRHWIXEOOOLLIOXITQBGHXLPRITDTSMHIWYURRBTUVXWAVXHOYLEAGKOSWMHEEEL
ECMHETTINXHNTLXWAPESSXTRTMGGTSULIWMERYIBEXMERKXTARHTHIKTRYVKRSNNDXHTHMLSI
HXTHMLISEFISXTKEMAAVIGTDSGEARRTHMGGNSUUTCHUWMELIXLVEVRIMTHRTEGTTLTTYSNLIZXI
CEGTBIEIEZXTHMLISLTPPIGINKAOWGHULHMHARFANKXTUTTFTIKYOYGOTEFANEMERQBNAXHRC
CUERHRNAQBCSQHDEPLUSTXCTZXHIGEESMZHTIWONQHTOVTTPMVOSSNTHFHUNHNNIXLTWS
SERSLIXEGDFMOESIOENEMTEQITIRMERGXPTYGITSGEFSNRTLKEEGHMEMGTHMLISSGEFSNRTLK
EEAXSTFHUNHHNOPRMPMVAPTKOAGAINKHVEVEANHTIRYGITXPOWIKEORAIMAXSTFHUNHLANX
TMORBCAEMFOYKZEVHFIZXAMEVHIRXYOYFEAREIKITROFHTNSMARSUOTGRBOVZCYFXRNIMICSK
GARBSMFNTHIPASFEEEHBNGNNSTELECSGDKIXPYSNRHITDDSPNLSLTHMFGOSWCOZXRAPKIGL
MLIWMENXAETIKMIRTTOVLANMGFIPMRAXBONYGITTTRTQTNPEKTMEVHIRXUNHXRNITTHMMSALR
PEVTLLSRCOQUATGAASWBSMMKCOTKOCILSOVVONXKOLPXDFYELYEKMOVXDVIKYTSNGHFNTOY
MSIHXITWEIVMGGHYFANXBSSYXFLILHSOBNHEBRBPHODKKOWRYORXAECCUORKLLOSDREILEI
OGOWCHUWEGTTSAELTUUTTTYAXMENXBONXAESIKIEWAADVNBBIKSKMGWEWIOTXXDTLXMEELY
BYMTHILEAVXNEAMHECEOOOAUMEGSWITTBEWBRITTHIOERCMHIRZVEVRHAVWTOWIOTMAADX
HWAMMTIPAEMSOEDSGYOYUEFSKEIGHULHSERSAIMLXYIQGOTWMUPMWYKRHWTLXYCEGTBYB
LDEGYTLBNGPBKEXAATCXTNSGOTCXTNSMFOVTBOYMFOVMYYITRSWHITWYROQMHEJNTUVXISX
AATVBGHXHNETHSSMULEJNTUVXFOYKYOYKPOMGTOJOIEABDORMKNSPTHIMECLLTUJYANHROU
VXFRSFTHIYUTYKETSHRIKATRMZHTGRBOVZSDSGTFIXLPEBNIHHDORMDOXAATEZAIRCUSXEETQX
GOPBSTIGUNHXRSXTNDXAATXXRMMGATSKISSNTTLXREMMCARMBEVXASSGEDABTHMMCARMBE
FTRGEBNEHPITLBTDSXSNXYEEPIITCHFRIFORWXORJXAREGDIXTBSSEUTIEYWMELNSMSTSIEVIKU
NXBLYSNARIWEAHVANCHUSXHPIXFAYFXWIXATHILEWITPORLIDSGTKRHWSYLPEGMVELBCLIEOC
EMEDEMPAVDINKEOTGXDAVTNDKEENLTVERKEEWXWHCFEWLRDOILITATNTQXTHIKESWHMUGAT
EPEMENNSTWMARXTTTLXBEKBNNMGGTLXREATSAATRAJXWYITRSJKOMRHWNYVLEEKWAVMHEAA
OLIMHIRZALPMHIWXVEVRTHMGGIWZONICUSXZONIMHEVXWEVXSUVOIVSKSHIKETLXRERHBOHR
KNIPWHSLTAVMEDMMITATSTLXMAGAINILIDSGTURWERWMANHWEFIGSERXTWSKKCSFPUXXRNIP
POAXRFYEHOSDEDMGTOIOERCMHIRZTRYLTEHMORYGITEELTLXYSERITKHTSQTRTEGEWSKDEVHF
IRMELPBGERVETLXNIXLAWEELPIHPLITSAXAREEMNOXCUSXMHESGESSGTHIHTHIKSIHXDEGBDEH
HUTJTTEMGAMMVROWXCORWEXXXRMMGATMHNDMWNTWXETLXWAVBWAWUORRTFTIKINXAER
YBNSKKEWYITHIKESXTRVMGGHMWINKYROQMHELDSTLXWHEMHURMEROBLLIKSPEMROPFACLB
NEWUUIPWINENTOQTTEHYACXHRIILMOWMOFYLWEVXROYGDEHNPPYMINGTMPWYORSKDEVEY
DMLPOWTLBYKNEHBNBCEASIKSCEGSOQXOFYLWEVXKETMALMOETSPOROEOAHBNGFHDIILTHI
WISTHSAPNNIXLRARGIGLMANHWAYAXWEVXTHEMCLSLETSZOIRZOUXYORIOERFNTTLXREATSORX
MARPHOXTUGLMUSXHFIKATTSLTOVFTHIPIRIHFTLXCAQISTSLMAWATHSLEMIMALQHTHIKFUGDER
WBNTSCUNOAETYKNEHBTAVHUNHAEBVHUGLMUSFTCKJKOMXAEBVBNKTTUSIAISRTMEMLCORG
ORNHHNGHNNSKYOYKSORLAREAYOYKUNFHRNWHN

---TRIAL 15 ---
key: "joen"

ARHYOULNJUUEDAUEYOXSHOWDOEAACTOYWHDTISDYEXDCTLBDONWMOVHUNLHSSIVAYDRN
TMDKEAVOUNGUNLHSSIVAYDRYOUXNDEUSTAQDDOBOUUQDERVTANGYESGONTKURTPEIMKER
EWOHEOPYOXREEVESEUGEAQTTEFHCOPASSLGNEGTOPUOTEFTYOXYOUYEBEHNTAUGETWEDFR
RTEUMINDTIOQIDOQTKNRWITOOOKVLIKHITMLGHTVPREDDTOWHISIURNLTURHWARHHOUVEAC
UOSSWHEAOLEYWHEPDINTRNTHHWALOSSTDRTIQGTOELISWERUSBETWERGHTANRTHEUTRUFK
ROXNDTRTHIVSIDHTHIVISAPISTDKEIKAVEQTDOQEANBTHIQGNOEUTYRUWIOLITVVERBIMPRRTAQ
TTHDTYOXLIVHICAQTBEOIEVHTHIVISHDPPEQINGKOWCRULDWHANPANGHTUPDFTEUYOUQOTA
PANAWERMLNATRRCYEERDBNAMLCSMRDELVUSPHCTVHHICOESIJHTEGONMRTORDTPIFOSOXT
HBRUNDXNITVTWOCEROVIXAQDFIYESEYENAWTEMSTINWERCHPTUQITOQEFOXRTHUEECRMEIQ
THIVISOQEFOXRTHUEEWHSTBRUNDRNOLBMPIFAPPUOACKINGRVEROANDDIRUQITTZOWEUEO
NKIMWHSTBRUNDVANTDMONLCAAWFOUUZERRFIVHAMAFHINHYOUPEANOIKEDROBRTNOWAR
OEOTCBBORJCYBHRNEWICOUGANLSMBXTHEZASBOEEDLNGJXSTAVECOQDKEHPYOXRHEDDDO
ZNLOVTHIPGOOGCOVHRALUIGHWLISWENTKETEUMINDTORVANIQFILWRATLONUQITPDRTMDNP
AUTMAFHINHUNDHRNEDTHIWSAHBPERDLLOBCOMEATCKASSLSMIUCOPUOCEVSORFONTUOLL
HDFUOLYAUMORHDVEUYTOXGHBXTOUWSIDHITSOIVIQGHUPANTLSSUHFLEVHSKLNHALRBLRO
DGUOWNIORTKECYEORGVLOONREEVEIKQOWYRUWAQTTOKELPEUTPDYATWENTLONTKESEUIES
KADRXBBEUSKIQWESSOTTHDTHHMEAVYBUWTHEVEARHNEWWHEYOOOKKUMAQSWEDTBAGBR
EDTHEYERYWHINJVERBHARGTOSSOTIKADTRWAIWTILKEMOYEDOQYOUEEFOUEICRULDCEROKIM
HHYIMQOTSWUPIGYKNRWTHHYCAQTBULLDAQYTHLNGLLKETKATYHTNOQOTYHTNOWFORDBOU
WFORWYYEDRSSRITSIROMWHEFXTURHISTKATRLGHTRNEPRSSIELEFXTURHFOUUYOUUPOIQTOF
YIEWLDONWKNOZTHEWECHVTUFIANDBOURHFROPTHEIUTUUETORRIGKTRIJHTCBBORJSDOQTF
EHLPALNIDRDONWDOTKATAJAINMUSTOETMHGOLLSTEQUNDHRSTDNDTKATTHRMIQATOUISOXT
THHREIWCANWBERHASOQEDWLTHIWCANWBEBDRGALNEDZITHLTDOHSNTIEELSITYRFREPORS
HORFHARAQDITDBSOOUTEOYWIOLNOWSTOSEVEUUNTLLYOXAREGEADFANYRUSTRPITPAYBHWI
TKTHEVEWEDPONVIDOQTKNRWSUVPECWVEHLCLEOOCAWEDAWPARNINGOOTCHDARDNDGOE
NHDVENUEESHWHYPEWHBDOEVITWDNTMHTHEUESSRMUCKTELOMEJXSTSWARTDTTHHBEGLN
NIQGTHHREWDSAWDRAFHWYEDRSFUOMNRWNUFLEAUWARWHEWKOLEWHINJALLWHISHVERB
THIQGISJONEMUSTJONEWHERHWERHSURYIVOUSHEUETHHRENRBODBKNEZWHOVTARWEDIWI
TWDSTHHMACKINEVIDOQTUNGERSWANDGEFEQSENHTWOUKCOPPUTHRNEZPOWHRFUOHOO
NEDIQTOEYERYWHINJTRUVTEDWORUQITAOLTHHYSABITGRTSMDRTAQEWOUDERRFINWELLLGE
NFETHHNITVAWAOLPERPLEDSATKREAWNOTMUSTWHEOQESOQTHERTHEUSIDHDECLDEDRUTF
DTEIQAMIFROSHCONGEXTHRMIQATIRNDIGNTSHETHHWARLWASEORNDFTEUINTKERULNSGUE
WUSTHEUESTDRVIQGHIGINGIROMWHEHNSTHHWHAWHUNWERKLLLEUSPAWROLPACHLNESEU
ILGINAXTOMDTEDIACTRRIEVMOSWOFUVWERHROUQDEDXPPUWINCDMPSIOROUDEROYDIVPOS
DLBUUNEDLNBYOASEUSCAQSOMHOFUVWERHKEPWALIYETOZORKOOADLNGBRDIEVTHEGISPR
SALXNITVRANQIGHWANDGAYWHWERHTHAWCLOVETOJOINJOUTIOREYERBXTTHHREWDSONHM
ANZHOTDUGHWUSTRFIGKTTOVTORPTHEZIRERFTHHCAMSSTOVMASKTHOVEMEWALMRTHEUFUC
NERSLNTOMUNKKETUUNEDLTARRUNDKEBRRUGHWUSBDCKFUOMTKEBRLNKPDUSEKISNDMEIV
CONQORJRHNCRNNOUYOUUSONVARAKYOUUUNBRRNSRN

--TRIAL 16 --
key: "jorn"

ARUYOUYNJUHEDAHEYOKSHOJDOENACTBYWHQTISQYEXQCTLODONJMOVUUNLUSSIIAYDENTM
QKEAIOUNTUNLUSSIIAYDEYOUKNDEHSTADDDOOOUUDDERITANTYESTONTXURTCEIMXEREJOHE
BPYOKREEIESEHGEADTTESHCOCASSYGNETTOPHOTESTYOKYOULEBEUNTAHGETJEDFERTEHMIN
QTIODIDODTKNEWITBOOKILIKUITMYGHTIPREQDTOJHISVURNYTURUWARUHOUIEACHOSSJHEAB
LEYJHEPQINTENTHUWALBSSTQRTIDGTORLISJERUFBETJERGUTANETHEHTRUSKROKNDTETHIISID
UTHIIISACISTQKEIXAVEDTDODEANOTHIDGNORUTYEUWIBLITIVEROIMPERTADTTHQTYOKLIVUICA
DTBEBIEVUTHIIISHQPPEDINGXOWCEULDJHANCANGUTUPQFTEHYOUDOTACANAJERMYNATERCY
RERDONAMYCSMEDELIUSPUCTVUHICBESIWHTETONMETORQTPISOSOKTHBEUNDKNITITWOPER
OIIXADDFILESELENAJTEMFTINJERCUPTUDITODEFOKRTHHEECEMEIDTHIIISODEFOKRTHHEEWUS
TBEUNDENOLOMPISAPPHOACXINGEVERBANDQIRUDITTMOWEHEONXIMWUSTBEUNDIANTQMO
NYCAAJFOUHZEREFIVUAMASHINUYOUCEANBIKEQROBETNOJAROROTCOBORWCYBURNEJICOH
GANYSMBKTHEMASBBEEDYNGJKSTAIECODDKEUPYOKRHEQDDOMNLOITHICGOOTCOVURALHIG
HJLISJENTXETEHMINQTORIANIDFILJRATYONUDITPQRTMQNPAHTMASHINUUNDURNEQTHIJSAHO
PERQLLOOCOMRATCXASSYSMIHCOPHOCEISORSONTHOLLUDFUBLYAHMORUDVEHYTOKGHBKT
OUJSIDUITSBIVIDGHUCANTYSSUUFLEIHSKYNHAYRBLEODGHOWNVORTXECYRORGILOOAREEIEI
KDOWYEUWADTTOXELPRUTPQYATJENTYONTXESEHIESXADRKBBEHSKIDWESFOTTUDTHUMEAIYB
UJTHEIEARUNEWJHEYBOOKXUMADSWEQTBATBREQTHELERYJHINWVEROHARTTOSFOTIXADTEWA
IJTILXEMOLEDODYOUREFOHEICEULDPEROXIMHUYIMDOTSJUPITYKNEWTHUYCADTBUYLDADYTH
YNGLYKETXATYUTNODOTYUTNOJFORQBOUJFORJYYEQRSSEITSVROMJHEFKTURUISTXATRYGHTEN
EPESSIRLEFKTURUFOUHYOUHPOIDTOFLIEWYDONJKNOMTHEJECHITUFVANDOOURUFROCTHEV
UTUHETOERIGXTRIWHTCOBORWSDODTFEULPAYNIDEDONJDOTXATAWAINZUSTBETMUGOLYSTE
DUNDURSTQNDTXATTURMIDATOHISOKTTHUREIJCANJBERUASODEDWYTHIJCANJBEBQRGAYNED
MITHYTDOUSNTVEELFITYEFRECORSUORFUARADDITQBSOBUTEBYWIBLNOJSTOFEVEHUNTYLYOK
ARETEADSANYEUSTEPITCAYBUWITXTHEIEWEQPONIIDODTKNEWSUIPECJVEHYCLEBOCAJEDAJPA
RAINGBOTCUDARQNDGBENHQVENHEESUWHYCEWHODOEIITWQNTMUTHEHESSEMUCXTELBM
EJKSTSJARTQTTHUBEGYNNIDGTHUREWQSAWQRAFUWYEQRSFHOMNEWNUSLEAHWARJHEWXO
LEJHINWALLJHISUVEROTHIDGISWONEZUSTWONEJHERUWERUSURLIVOHSHEHETHURENEBODO
KNEMWHOITARJEDIJITWQSTHUMACXINEIIDODTUNTERSJANDTEFEDSENUTWOHKCOCPUTURNE
MPOWURFUBHOOAEDIDTOELERYJHINWTRUITEDJORUDITABLTHUYSAOITGETSMQRTADEWOHDE
REFINJELLYGENSETHUNITIAWABLPEEPLEQSATXREAJNOTZUSTJHEODESODTHEETHEHSIDUDECY
DEDEUTFQTEIDAMISROSUCONTEXTURMIDATIENDITNTSUETHUWARYWASRORNQFTEHINTXERUY
NSGHEWUFTHEHESTQRVIDGHITINGVROMJHEHASTHUWHAJHUNJERKYLLEHSPAJROLCACHYNES
RUILTINAKTOMQTEDVACTERIEIMOSJOFUIWERUROUDDEDKPPUJINCQMPSVOROHDERBYDIIPOSQ
LBUHNEDYNBYBASEHSCADSOMUOFUIWERUKEPJALILETOMORKBOADYNGBEDIEITHETISPESALK
NITIRANDIGHJANDTAYWUWERUTHAJCLOIETOWOINWOUTVORELERBKTTHUREWQSONUMANMH
OTQUGHJUSTEFIGXTTOITORCTHEMIREEFTHUCAMFSTOIMASXTHOIEMEJALMETHEHFUCAERSYNT
OZUNKXETUHNEDYTAREUNDXEBREUGHJUSBQCKFHOMTXEBRYNKPQUSEXISNQMEIICONDORJE
HNCENNOHYOUHSONIARAXYOUHUNBERNSEN

--**TRIAL 17** --

key: "john"

AREYOUINJUREDAREYOUSHOTDOEXACTLYWHATISAYEXACTLYDONTMOVEUNLESSISAYDONTMAK
EASOUNDUNLESSISAYDOYOUUNDERSTANDDOYOUUNDERSTANDYESDONTHURTMEIMHERETOH
ELPYOUREESESERGEANTTECHCOMASSIGNEDTOPROTECTYOUYOUVEBEENTARGETTEDFORTERM
INATIONIDONTKNOWITLOOKSLIKEITMIGHTSPREADTOTHISFURNITUREWAREHOUSEACROSSTHEA
LLEYTHEPAINTONTHEWALLSSTARTINGTOBLISTERUPBETTERGETANOTHERTRUCKROUNDTOTHISSI
DETHISISAMISTAKEIHAVENTDONEANYTHINGNOBUTYOUWILLITSVERYIMPORTANTTHATYOULIVEI
CANTBELIEVETHISISHAPPENINGHOWCOULDTHANMANGETUPAFTERYOUNOTAMANATERMINATO
RCYBERDYNAMICSMODELSUSPECTVEHICLESIGHTEDONMOTORATPICOSOUTHBOUNDUNITSTW
OZEROSIXANDFIVESEVENATTEMPTINTERCEPTUNITONEFOURTHREECOMEINTHISISONEFOURTHR
EEWESTBOUNDONOLYMPICAPPROACHINGOVERLANDAIRUNITTWOWEREONHIMWESTBOUNDS
ANTAMONICAATFOURZEROFIVEAMACHINEYOUMEANLIKEAROBOTNOTAROBOTCYBORGCYBERN
ETICORGANISMBUTHEWASBLEEDINGJUSTASECONDKEEPYOURHEADDOWNLOSTHIMGOODCOV
ERALRIGHTLISTENTHETERMINATORSANINFILTRATIONUNITPARTMANPARTMACHINEUNDERNEATH
ITSAHYPERALLOYCOMBATCHASSISMIRCOPROCESSORCONTROLLEDFULLYARMOREDVERYTOUG
HBUTOUTSIDEITSLIVINGHUMANTISSUEFLESHSKINHAIRBLOODGROWNFORTHECYBORGSLOOKR
EESEIKNOWYOUWANTTOHELPBUTPAYATTENTIONTHESERIESHADRUBBERSKINWESPOTTEDTHEM
EASYBUTTHESEARENEWTHEYLOOKHUMANSWEATBADBREATHEVERYTHINGVERYHARDTOSPOTIH
ADTOWAITTILHEMOVEDONYOUBEFOREICOULDZEROHIMHEYIMNOTSTUPIDYKNOWTHEYCANTBU
ILDANYTHINGLIKETHATYETNONOTYETNOTFORABOUTFORTYYEARSSOITSFROMTHEFUTUREISTHA
TRIGHTONEPOSSIBLEFUTUREFOURYOURPOINTOFVIEWIDONTKNOWTHETECHSTUFFANDYOURE
FROMTHEFUTURETOORIGHTRIGHTCYBORGSDONTFEELPAINIDODONTDOTHATAGAINJUSTLETME
GOLISTENUNDERSTANDTHATTERMINATORISOUTTHEREITCANTBEREASONEDWITHITCANTBEBAR
GAINEDWITHITDOESNTFEELPITYOFREMORSEORFEARANDITABSOLUTELYWILLNOTSTOPEVERUNT
ILYOUAREDEADCANYOUSTOPITMAYBEWITHTHESEWEAPONSIDONTKNOWSUSPECTVEHICLELOC
ATEDATPARKINGLOTCEDARANDGLENHAVENREESEWHYMEWHYDOESITWANTMETHERESSOMUC
HTELLMEJUSTSTARTATTHEBEGINNINGTHEREWASAWARAFEWYEARSFROMNOWNUCLEARWARTH
EWHOLETHINGALLTHISEVERYTHINGISGONEJUSTGONETHEREWERESURVIVORSHERETHERENOB
ODYKNEWWHOSTARTEDITITWASTHEMACHINESIDONTUNDERSTANDDEFENSENETWORKCOMPU
TERNEWPOWERFULHOOKEDINTOEVERYTHINGTRUSTEDTORUNITALLTHEYSAYITGOTSMARTANEW
ORDEROFINTELLIGENCETHENITSAWALLPEOPLEASATHREATNOTJUSTTHEONESONTHEOTHERSID
EDECIDEDOUTFATEINAMICROSECONDEXTERMINATIONDIDNTSEETHEWARIWASBORNAFTERINTH
ERUINSGREWUPTHERESTARVINGHIDINGFROMTHEHKSTHEWHATHUNTERKILLERSPATROLMACHI
NESBUILDINAUTOMATEDFACTORIESMOSTOFUSWEREROUNDEDUPPUTINCAMPSFORORDERLYDI
SPOSALBURNEDINBYLASERSCANSOMEOFUSWEREKEPTALIVETOWORKLOADINGBODIESTHEDISP
OSALUNITSRANNIGHTANDDAYWEWERETHATCLOSETOGOINGOUTFOREVERBUTTHEREWASONEM
ANWHOTAUGHTUSTOFIGHTTOSTORMTHEWIREOFTHECAMPSTOSMASHTHOSEMETALMOTHERFU
CKERSINTOJUNKHETURNEDITAROUNDHEBROUGHTUSBACKFROMTHEBRINKPAUSEHISNAMEISC
ONNORJOHNCONNORYOURSONSARAHYOURUNBORNSON

6.   Submit your documented python code on canvas.
(25 total points, 10 points for documentation, 15 points for working code. No points
awarded if the code is copy/pasted from someone else.)
SUBMITTED